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fueloil & oil heat

FUELING THE AIR LINES OF LATIN AMERICA . . .

A LONG STEP forward in the advancement of Latin America is the development of its vast network of air routes. Airlines now operating on frequent schedules have reduced travel time from weeks to hours. An extremely important factor in these operations is modern fueling equipment typified by the 4000 liter 3-compartment Refueling Tank truck, shown above, equipped with Brodie Quantrol Meters, which provide fully automatic quantity control. With the Brodie Quantrol the predetermined number of gallons to be transferred is set on the meter. When this point is reached in the delivery, the Quantrol automatically shuts-off, preventing overfilling, spillage, waste and potential fire hazards. For safe, accurate and automatic handling of metered deliveries, employ Brodie Meters equipped with Brodie Automatic Quantrol.

Write for full details, today.

BRODIE METERS

PETROLEUM METERING EXCLUSIVELY

SINCE 1927

RALPH N. BRODIE CO., Inc.
953 61st Street, Oakland 8, California, U.S.A.
Division Offices: Chrysler Bldg., New York City • 59 E. Van Buren, Chicago • 302 South Pearl Street, Dallas, Texas • 164 Jackson, Seattle 4, Wash. • 2101 So. San Pedro, Los Angeles 11, Calif.

Representatives and Stocks in All Principal Cities

fueloil & oil heat

VOL. 4 NO. 1

MAY

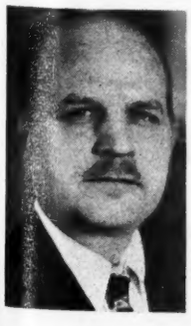
1945

Names in the News

Charles B. Nash, Director of Publicity of American Radiator & Sanitary Corp., died April 17 after a brief illness, age 65. *Nash* started his advertising career with the Standard Sanitary Manufacturing Co., in 1903 and in 1913 became advertising manager. In 1930 he was elected a vice-president of Standard Sanitary. In 1939 that firm consolidated with others to form the present American Radiator & Standard Sanitary Corp. He headed advertising and publicity for the new corporation.

Wat Tyler has been chosen to head the Fueloil Marketing Department in N. E. of Shell Oil Co., Boston. *Tyler* became associated with the petroleum industry shortly after his graduation from the University of Virginia about fifteen years ago. For the past thirteen years, he has been connected quite closely with oilheating problems and fueloil.

Donald S. Woods has been appointed to be in charge of sales of the Evans Products Co., Detroit. *Woods* joined the Evans organization from the WPB, where for more than a year he was Chief of the Plumbing and Heating Branch of OCR. Before that, he was technical advisor on plumbing and Heating for the National Housing Agency.



Lloyd Aldrich, president of the Aldrich Co., Wyoming, Ill., was elected Mayor of Wyoming, April 17, for a

C O N T E N T S

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VOLUME 4, NUMBER 1 OF FUELOIL & OIL HEAT. PUBLISHED MONTHLY BY HEATING PUBLISHERS, INC., 232 MADISON AVE., NEW YORK, (16), N. Y., BY CONTRACT WITH FOWLER-BECKER PUBLISHING COMPANY, OWNER OF FUELOIL JOURNAL (VOL. XXIII, NO. 11), AND HEATING JOURNALS, INC., OWNER OF AIRCONDITIONING & OIL HEAT (VOL. XVIII, NO. 5), MAY, '45.

HEATING PUBLISHERS, INC., 232 Madison Ave., New York, 16
Lexington 2-4566

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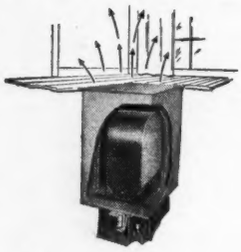
MEMBER CCA

Yearly: $3
Canadian: $4.35
single copy: this issue 35¢

H. C. Little Burner Co.

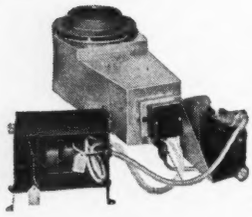
Head Office: **San Rafael, Calif.**

Branches in Principal Cities



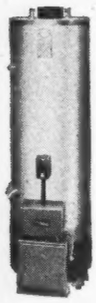
Fully Automatic Oil Burning Floor Furnace

These low cost units are factory assembled, including all controls, ready to hang in floor. Easy installation, no basement needed. Natural draft vaporizing burner, automatic operation, with electric ignition and thermostatic control. Inexpensive to operate. Listed by Underwriters' Laboratories for No. 3 oil (27° + Diesel oil). Two sizes: No. **70-42**—47,250 Btu output (22 in. wide x 28 in. long x 44 in. high; No. **100-42**—75,000 Btu output (22 in. wide x 40 in. long x 45½ in. high).



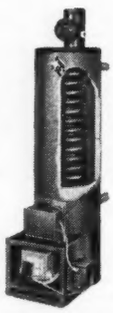
Natural Draft, Automatic, Vaporizing Burner

Natural draft vaporizing burner specifically designed for No. 3 oil (27°+ Diesel oil) and listed by the Underwriters' Laboratories. Model shown (with controls attached) is fully automatic, with electric ignition (no pilot light) and thermostatic control. Manually operated models, which do not require electricity, are also listed for No. 3 oil. Seven sizes: 1.45 qts. to 2¾ gal. per hour.



Aquatherm Water Heaters

Economical operation and ample capacity for all domestic requirements. Aquatherm "30" has 28 gal. storage, 40 g.p.h. recovery rate, is 19 in. wide x 21 in. deep x 56 in. Aquatherm "60" has 60 gals. storage, 160 g.p.h. recovery, is 24½ in. wide x 36 in. deep x 68 in Both units listed by Underwriters' Laboratories for No. 3 oil.



Coil Water Heater

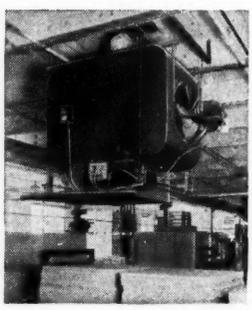
For camps, auto courts, apartments or small hotels. Uses separate hot water storage tank. Also makes excellent boiler for hot water installations in home heating. Two sizes: No. 150—106,960 Btu output, 150 g.p.h. (80° rise); No. 250—160,440 Btu output, 250 g.p.h. (80° rise).

Winter Air Conditioner

Size A, 77,000 Btu output. Size B, 125,000 Btu output. Multivane blower, filters, vaporizing burner.

Ceiling Furnace

Industrial overhead heating saves floor space. Units are factory assembled, including vaporizing oil burner (no refractory brick saves much weight), thermostatic control, high capacity heat distributing fan with ¼ hp motor. Conforms to requirement of the Underwriters' Laboratories for use in garages.



A complete line of oil-fired small home heating units —plus special industrial units of moderate capacity.

The above advertisement, reprinted from the 1945 Heating, Ventilating, Air Conditioning GUIDE, shows five of the factory assembled H. C. Little units with which H. C. Little dealers will build real postwar heating profits. Completing the picture is the H. C. Little Conversion Burner, the only fully automatic, electric ignition, natural draft vaporizing type burner available in a complete line, including in addition to the units shown above, Utility Room Furnaces, Space Heaters, Wall Furnaces, etc. If you are interested in selling automatic oil heat TO THE WIDEST POSSIBLE MARKET, write for a copy of "How to Get Real Profits in Postwar Heating."

three-year term. *Aldrich's* salary is to be donated to the town library.

James Matthew has been appointed to the advertising staff of Harvey-Whipple, Inc., Springfield, Mass. *Matthew* has been active in the display and advertising fields for over twenty years. Prior to joining Harvey-Whipple, Inc., he was engaged in Government work in the aviation field.

C. S. Herbert was elected executive vice president of the Enterprise Engine and Foundry Co., San Francisco oil-burner manufacturers, at the annual directors meeting. He is also secretary-treasurer of the company. In 1942, he was elected to the company's directorate and a year later to a vice-presidency. A specialist in industrial management, he was former manager of the special services division on the Pacific Coast for Ernst & Ernst, and has had wide experience in organizational problems.

Robert H. McGinty has joined the Chrysler Corp. Airtemp Division's field organization as district representative in the Minneapolis-St. Paul area. For four years before coming to Airtemp, *McGinty* was sales and engineering representative for Thermal Company, Inc., St. Paul. *McGinty* is a member of the American Society of Refrigerating Engineers and a member also of the Refrigeration Service Engineers' Society.

Charles S. Rosenthal, vice president and general manager of the Apex Motor Fuel Co., Chicago, died April 16 at Miami, Fla. Widely known to Midwestern oil men, *Rosenthal* was president of the Illinois Petroleum Marketers Assoc.

Meet your Future Customers

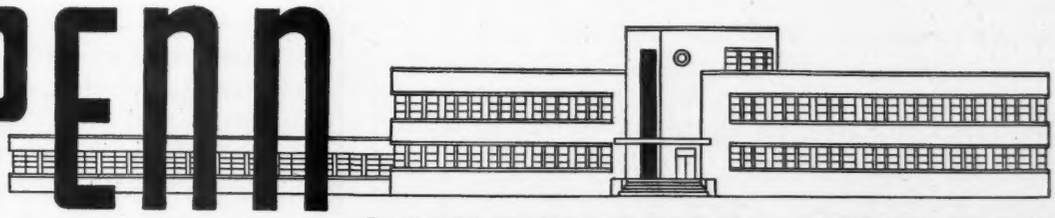
• There's Mister A, the "show me" type . . . Mister B, out to get "something extra" for his money . . . and Mister C, with a sharp eye for flaws.

Fussy? Sure they're fussy . . . *but they're typical of your future customers.* All this time that they've been getting by with old heating equipment—"making it do" or doing without—they've looked to the day when they'd have the best. And they mean to get it.

Manufacturers of heating equipment, eyeing this critical audience, are consulting with PENN in increasing numbers . . . seeking automatic controls to give their products added efficiency, protection and ease of operation. And PENN engineers are responding with controls tailored to specific needs . . . controls that become a *part of their product,* indispensable to top performance.

For dealers and service men, this means fewer troubles from adapted accessories . . . less troublesome repairs. No matter how tough the buyers, *co-operative design* points a sure way to customer satisfaction. Let it work for you in the days to come. Heating equipment with PENN automatic controls shows care and consideration for you on the part of the manufacturer. *Penn Electric Switch Co., Goshen, Ind.* Export Division: 13 E. 40th St., New York 16, U. S. A. In Canada: Powerlite Devices, Ltd., Toronto, Ont.

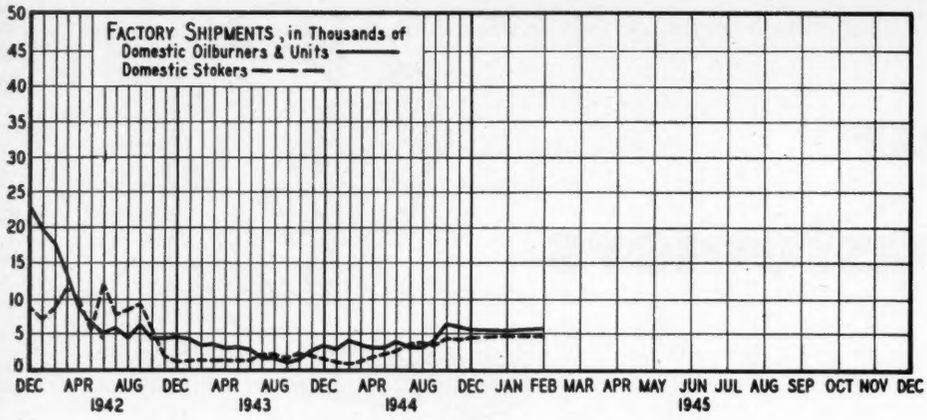
PENN



AUTOMATIC CONTROLS

FOR HEATING, REFRIGERATION, AIR CONDITIONING, ENGINES, PUMPS AND AIR COMPRESSORS

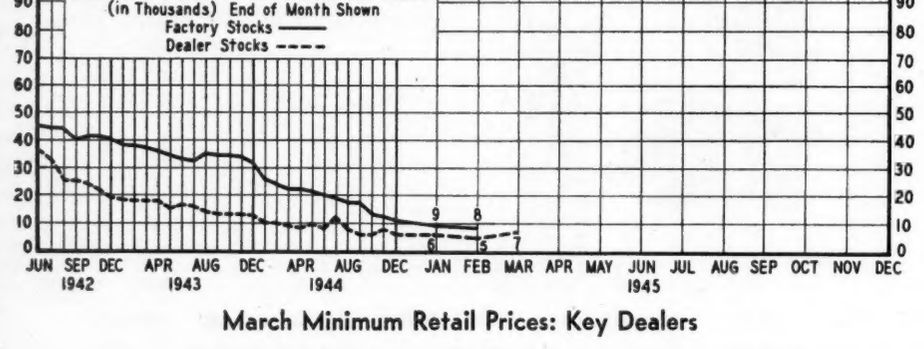
fueloil & oil heat


FACTORY SHIPMENTS, in Thousands of
Domestic Oilburners & Units
Domestic Stokers
DEC APR AUG DEC APR AUG DEC APR AUG DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
1942
1943
1944
1945

Shipments of Oilburners and Units

Adjusted to include manufacturers other than the 104 reporting to Census Bureau, FUELOIL & OIL HEAT's estimates of shipments are:

	FEBRUARY			TWO MONTHS		
	1945	*1944*	*Percent Change*	*1945*	*1944*	*Percent Change*
Conversion	3,877	3,550	+ 9.2	8,038	5,686	+ 41.4
Boiler units	870	274	+210.0	1,569	543	+189.0
Furnace units	778	302	+157.6	1,214	446	+172.0
All domestic	5,525	4,126	+ 33.9	10,821	6,675	+ 62.1
Commercial	3,018	2,997	+ 0.7	7,135	5,918	+ 20.6
Total	8,543	7,123	+ 19.9	17,956	12,593	+ 42.7


STOCKS OF DOMESTIC OILBURNERS AND UNITS
(in Thousands) End of Month Shown
Factory Stocks
Dealer Stocks
JUN SEP DEC APR AUG DEC APR AUG DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
1942
1943
1944
1945

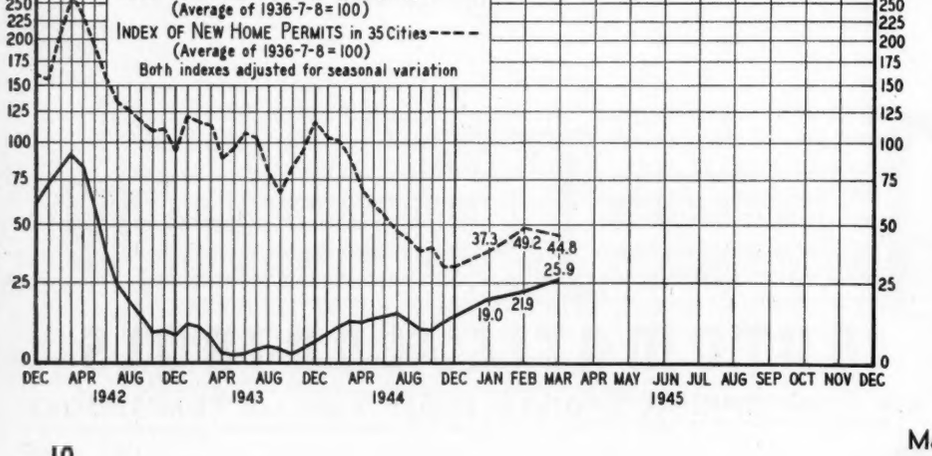
March Minimum Retail Prices: Key Dealers

	CONVERSION BURNERS		BOILER-BURNERS		FURNACE-BURNERS	
	*Top price**	*Low price*	*Top price**	*Low price*	*Top price**	*Low price*
Highest	$373	$179	$800	...	$520	$340
Lowest	200	140	400	...	405	290
Mar. Aver.	264	173	499	...	468	331
Feb. Aver.	270	178	507	...	484	347

*Top price key dealers for conversion burners are those whose minimum retail prices are $200 or more, for boiler-burner and furnace-burner units (exclusive of ductwork) those whose minimums are $400 or over.

Price Index: Conversion Burners: January 1940 is 100%

WHOLESALE				RETAIL			
March	116.1	Six months ago	114.2	March	112.4	Six months ago	113.0
February	115.2	Year ago	108.0	February	113.0	Year ago	110.1



Oilheating Trends

MARCH INSTALLATIONS OF domestic oilburners and units are estimated at 3,897, or more than three times the 1,127 installed in March 1944. Totals for the first three months were 19,625 this year and 11,647 last year. March installations were divided: 58% conversion burners, 16% boiler-burner units and 26% furnace-burner units. This shows a pronounced swing away from conversion burners due to inability to get them for even necessary replacements. The dealer must force a unit sale or lose the customer.

BURNER STOCKS: Domestic burners and units in dealer stocks on April 1 were approximately 7,200, some gain over the previous month, but the gain was in complete units, not in conversion burners. Of all dealers reporting this month, 20% had no burners on hand April 1, while the month before 28% had reported none on hand. Factory stocks on February 28, the latest data available, were 7,684 domestic burners and units. This compared with 8,522 on January 31 and with 11,184 on December 31. February factory shipments of domestic burners and units were 5,525 and January 5,296.

SERVICE INCOME: March service department income of reporting dealers averaged $2,519, up 11.8% from an average of $2,264 for the same group the year before. February income had averaged $2,432 and January $2,823.

SERVICE CONTRACTS: Only 37% of reporting dealers are going to make a drive for service contracts this spring. Some of the others will accept them where customers so request, but they don't want many of them, primarily because of labor and parts stringencies. Average contract price reported is $15.75 for summer clean and tune-up and any emergency calls. Contracts also including parts are offered optionally by 22% of the reporting dealers, at an average price of $22.70. Those dealers who want annual contracts expect to sell an average of 32% of their customers. Taking into account all dealers reporting, whether or not they will go after annual contracts, apparently about 20% of all oilheating homeowners will sign contracts. This compares with an actual figure of 18% last season.

GETTING OIL TANKS: The problem of getting enough 275-gallon tanks to care

for necessary replacements has been somewhat confused by conflicting viewpoints and lack of information. A number of dealers complained to WPB offices that they couldn't get tanks. When WPB and OCR considered allocating more steel for the purpose, the Armed Forces believed that this was not necessary, and contended that any dealer could get all of the tanks he actually needed under the automatic AA3 rating of L-79.

Checking this month with the group that regularly reports brings the conclusion that about 22% of tank needs are not being met. While only 19% of dealers can't get them, this group accounts for 22% of the total customers of all those reporting. Interestingly, all of those reporting inability to get tanks are in the group that buys from tank manufacturers rather than supply houses. No reporting dealer, who regularly gets tanks from supply houses, complains of inability to get them. 58% buy from manufacturers; 42% from supply houses. Nearly all of the dealers who buy from tank manufacturers (or 94%) extend to them the AA3 rating, so lack of rating has little to do with not getting the tanks. Less than half (45%) of those who buy from supply houses use the ratings, so it is apparent that the rating accomplishes little.

One answer is that manufacturers can use their facilities to better advantage than making 275-gallon tanks at today's prices. They do make a fair number to keep old customers in line.

A new supplementary allotment of 1,500 tons of steel has just been parcelled out. This will help fill the gap; if all used for the 275 size it would make 7,500. Because the average tank age increases during a period of no new installatoins, the number needed in 1945 will be greater than in 1944.

OIL CONTRACTS: Now that restrictions on taking oil contracts have been lifted, 29% of all reporting fueloil distributors say that they are going after contracts this spring. There is a wide difference by areas, however. In New England 14% will ask for contracts, in the Middle Atlantic states 20%, in the Midwest 80%, and in the Pacific Northwest none of those reporting want them. The high Midwest percentage is understandable, since the largest company in the region, Indiana Standard, is after contracts. Among majors in the East, only Sun has thus far announced that it will ask for them, but others may follow.

DEALER STORAGE: Last summer dealers generally did not try to keep filled up, particularly in August and September. Of all those reporting from the East, 71% say they plan to keep their tanks filled, 29% will not. Of those that will not, two-thirds say it is because of carrying costs and the other third are not sure about prices holding up to present levels.

HOLDING TRUCK DRIVERS: In these days of manpower shortages it is important to hold the good oil truck drivers through the summer. Only about one-third of them are needed for summer fill-ups; other work must be found for others. Totalling all reports this month, about 59% of drivers will be held over. One-fourth of companies will hold all of their drivers, but these are smaller companies, with six drivers or less. Six principal activities are listed to occupy the time of those not running the trucks. Top of this list is boiler and furnace cleaning, with 47% of dealers planning to use drivers on this work. Other activities and number of dealers planning to use drivers for the work are: repair and paint oil trucks 32%; general oilburner service work 21%; install oilburner jobs 16%; odd jobs around the plant 15%; home insulation work 11%.

Oilburner* and Building Permits

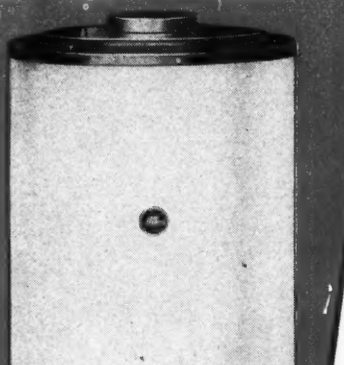
OILBURNERS					DWELLINGS			
March		3 MONTHS			March		3 MONTHS	
1945	1944	1945	1944		1945	1944	1945	1944
0	0	..	0	Albany, New York	..	..	..	..
..	..	..	..	Baltimore, Maryland	0	0	1	0
..	..	..	..	Binghamton, New York	0	0	0	0
..	..	..	..	Boston, Massachusetts	0	0	0	0
19	2	36	21	Bridgeport, Conn.	..	..	..	..
..	..	..	..	Buffalo, New York	0	2	..	28
..	..	..	..	Des Moines, Iowa	0	0	0	0
4	0	9	3	Elizabeth, N. J.	0	0	..	0
8	7	20	18	Freeport, New York	..	..	..	..
..	..	..	..	Greenwich, Conn.	0	0	1	0
..	..	..	..	Hackensack, N. J.	0	0	0	0
3	1	9	1	Irvington, N. J.	0	0	0	0
..	..	..	..	Lynn, Massachusetts	0	0	0	0
2	0	..	6	Milwaukee, W sc.	4	0	..	3
23	16	54	47	Minneapolis, Minn.	30	0	46	0
2	3	10	10	Montclair, N. J.	..	..	..	..
..	..	..	..	Morristown, N. J.	0	0	0	0
8	7	37	20	Mt. Vernon, New York	..	..	..	..
26	11	78	41	New Bedford, Mass.	..	..	..	..
2	1	12	2	New Haven, Conn.	..	..	..	..
5	..	59	..	New Rochelle, N. Y.	0	0	0	0
136	9	..	32	Manhattan, Bronx, Rchd	..	..	..	..
2	4	..	4	Norfolk, Virginia	..	..	..	..
0	0	1	1	Oakland, Calif.	..	..	..	..
8	13	27	42	Omaha, Nebraska	15	90	56	184
0	0	1	0	Orange, New Jersey	0	0	0	0
0	0	9	5	Paterson, N. J.	..	..	..	..
..	..	..	..	Plainfield, N. J.	0	7	0	7
5	2	19	10	Portland, Maine	..	..	..	..
27	5	72	18	Portland, Oregon	21	107	54	208
1	1	21	..	Providence, R. I.	0	0	0	0
..	..	..	..	Reading, Penna.	0	0	0	0
0	0	0	0	Richmond, Virginia	36	0	124	0
1	0	6	0	Rochester, N. Y.	..	..	..	..
3	1	4	8	Rockville Center, N. Y.	0	0	0	0
1	0	6	0	Salem, Massachusetts	0	0	0	0
15	7	33	19	St. Louis, M ssouri	..	..	..	..
12	10	34	15	St. Paul, Minnesota	..	..	..	..
2	0	11	5	Schenectady, N. Y.	..	..	..	..
..	..	..	..	Seattle, Washington	88	182	266	330
..	..	..	..	Springfield, Mass.	0	1	0	1
5	0	22	4	Stamford, Conn.	..	..	..	..
..	..	..	..	Syracuse, New York	5	0	6	0
..	..	..	..	Trenton, New Jersey	0	0	3	0
..	..	..	..	Utica, New York	1	0	1	0
27	7	84	26	Washington, D. C.	..	..	..	..
..	..	..	..	West Orange, N. J.	0	0	0	0
10	0	16	8	White Plains, N. Y.	0	0	0	0
2	1	5	3	Wilmington, Delaware	0	0	0	0
24	10	45	27	Worcester, Mass.	..	..	..	..
4	10	20	25	Yonkers, New York	..	..	..	..
382	128	680	379	*Totals*	200	389	558	761
+198.6		+79.4		*Percent Change*	—48.7		—26.6	

*Permits are not total sales in each market since none are reported from suburban areas, which normally account for 20% to 60% of total sales in each market; nor are they an accurate index where enforcement is lax. Rightly used, however, they are a useful working index.

FUEL SAVING NEVER BEFORE KNOWN . . .

Amazing OIL ECONOMY made possible by revolutionary

Allen's **LoPilot** PATENT PENDING *Burner*



Water Heater No. 3041; fully insulated with rock wool; fast recovery rate; operates on low pilot approximately 90% of time, for average family use. High efficiency, low stand-by loss.

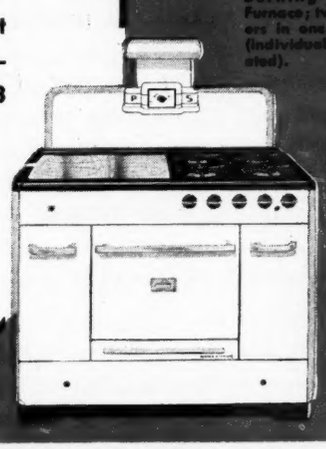
It's a red-hot sensation in the oil heating industry . . . Allen's new "LoPilot" Oil Burner!

Nothing like its economy has ever been known before. This revolutionary burner owes its amazing fuel saving to a specially designed pilot light (patent pending) which permits fast *low-pilot-to-high-fire* burner operation. Average family requirements of 50 gallons per day is provided on less than one gallon of fuel.

"Twin-Eight" Oil-Burning Parlor Furnace; two heaters in one cabinet (individually operated).

"Stand by" fuel consumption is drastically cut! Provides right amount of heat for maintaining water temperature without overheating. The pilot light in the 10-inch Burner uses less than 1/33 of a gallon of oil per hour, operating on low pilot. Fully automatic. Rock-wool insulation.

If ever a product was a "natural"—THIS IS IT! The public, fuel-saving-conscious as never before, is really "going" for this new Allen improvement. Dealers will find it a big profit maker.



At right: Combination range No. 4000, for coal-wood and gas; coal-wood and electric; oil and gas. Automatic change from one fuel to other; eliminates hand operations; one oven serves for different fuels.

ALLEN DISTRIBUTORS

Allen's
PARLOR FURNACES • PRINCESS RANGES • STREAMLINE RANGE ETERNAL

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Atlanta, Ga.
J. R. HUNT & CO.
Baltimore, Maryland
WESTERN MERCHANDISE DIST., INC.
Buffalo, New York
UNITED DISTRIBUTING CO.
Cambridge, Mass.
SOUTHERN RADIO CORP.
Charlotte, N. C.
THE YORK SUPPLY CO.
Cincinnati, Ohio

THE SMITH BROS. HDWE. CO.
Columbus, Ohio
SMALL & SCHELOSKY CO.
Evansville, Ind.
MORLEY-MURPHY CO.
Green Bay, Wisconsin, Milwaukee, Wisc.
D & H DISTRIBUTING CO.
Harrisburg, Pa.
ROYAL DISTRIBUTING CO.
Houston 2, Texas

MURRAY-BROOKS HARDWARE CO., LTD.
Lake Charles, La.
GOUGH INDUSTRIES, INC.
Los Angeles, Calif.
STRATTON-WARREN HDWE. CO.
Memphis, Tenn.
MAJOR APPLIANCES, INC.
Miami, Tampa, and Jacksonville, Fla.
GEO. H. LEHLEITNER & CO., INC.
New Orleans, La.
HARPER & McINTYRE CO.
Ottumwa and Cedar Rapids, Iowa
ARIZONA WHOLESALE SUPPLY CO.
Phoenix, Arizona
APPLIANCE WHOLESALERS OF OREGON
Portland, Oregon

NELSON & SMALL
Portland, Me.
WYATT-CORNICK, INC.
Richmond, Va.
DALLMAN SUPPLY CO.
Sacramento and San Francisco, Calif.
WYETH HARDWARE & MFG. CO.
St. Joseph, Mo.
RYAN RADIO & ELECTRIC CO.
St. Louis, Mo.
MOTOR POWER EQUIPMENT CO.
St. Paul, Minn.
RADIO TELEVISION & APPLIANCE CO.
Seattle, Washington
RUDNING-ROBERTSON CO.
Sioux Falls, S. Dakota

ALLEN MANUFACTURING CO. INC., Nashville, Tennessee

Effective Dispatching

System Developed by One of the Larger Eastern Dealers

by
Robert H. Fleisher*
and
George R. Clement*

In the February 1944 issue was described the methods used by Modern Heat & Fuel Co. in handling deliveries under rationing, including their system for keeping customers aware of how they stood in relation to their rations. To effectively operate that system they dropped degree-day delivery methods for the duration and substituted a customer card or call-in procedure. In addition they have customers' permission to make a drop anytime a truck is in the neighborhood. The dispatching system described here was initiated for degree-day operation but works as well with present methods, and can go back to degree-day tie-in after the war.

SEVERAL YEARS AGO, as our gallonage continued to expand, we came to the conclusion that there was room for substantial improvement in efficiency in the method in which orders were handled. At that time, when an order was received for fueloil or a call for oil burner service, it would be written out in longhand on an Order Form. As we analyzed the problem we sought to find a means of overcoming the numerous faults of this system; the possibility of getting either the name or address incorrectly, therefore causing a non-delivery stop; the possibility of billing the wrong person for the oil delivery when the name was a common one, such as Smith; the possibility for error in billing where the billing address was other than the delivery address. In overhauling and revamping our Order Department we not only wanted to overcome these faults but we also wanted to provide a means of knowing any special information concerning an account when an order was placed. By special information we mean a record of the location of a fill line if it is unusually hard to find, or anything unusual about the particular customer.

Our first step was to install an Addressograph system with an Addressograph plate for each customer. Each plate is 4¼" wide and 3½" high and contains the following information: customer's name, delivery address, zone (referring to our zoning system), whether or not the account is on schedule delivery or order, grade of oil, whether or not Ventalarm equipped, credit rating, method of obtaining hot water, month and year in which the customer was first acquired, salesman's number, commission rate, type of oil burner, whether or not installed by us, tank size, the billing name or address if it is other than delivery name and address, and any special information. In addition, if the equipment has been installed by us, the date of the guarantee is shown. Because the impression on the plate cannot be read easily unless an impression is printed on a piece of paper, on the front of each plate a card is inserted showing the name and address.

These same plates are used in making up monthly statement forms for all accounts. It saves a great deal of time over the former method of having to type up a new statement head each month. Now it is merely necessary to run the plates through the plating machine.

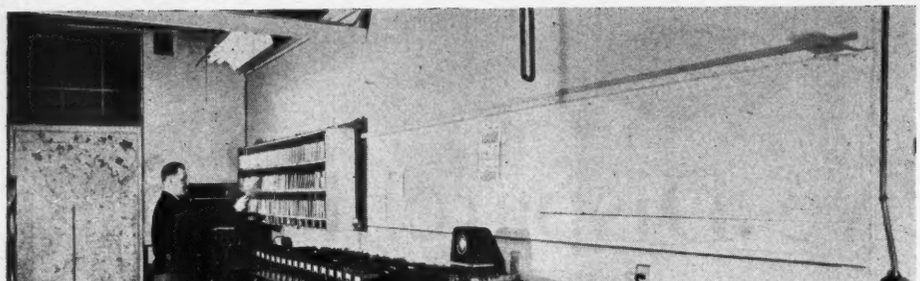
Accurate Zoning

Our next step was to change our method of zoning accounts. Previously we had divided the city into eight sections and as orders were received they would be split up into these eight zones for dispatching. After procuring an up-to-the-minute map of the territory which we serve we split it up into forty rectangles. Now, as soon as a new account is secured, it is zoned according to this map.

Our dispatch room is illustrated on the next page. This room is occupied by a dispatcher and his assistants, who are known as order clerks and who vary in number depending upon the season of the year. The scene of our operations is a steel platform or table placed permanently in position against the back wall of the office, 21′ long, 30″ deep and 3½′ high. Built into this table are five receptacles for telephones which are used by the order clerks. These phones work on a lamp and key arrangement and any phone call referred to the Dispatch Office by our operator (which means that a yellow light flashes on), may be answered on any of the five telephones. At one end of the table, where the dispatcher sits, are two unlisted telephones which do not go through the company switchboard and are used only by drivers or oil burner servicemen calling in for orders.

Back of the table, mounted on tracks against the wall of the office so that it may be rolled easily from one end of the room to the other, is a file partitioned into 120 bins, three high and forty across, each vertical row representing a different zone of our delivery territory. Each bin is 6" high and 2" wide. The file will normally be in front of the dispatcher but if, for example, an order clerk at the other end of the table wants to check an order, it is merely necessary for her to ask the dispatcher to roll the file down to her end of the table. This arrangement is also most convenient for dull periods of the year, such as summer, when the Dispatch Department will operate with only the dispatcher and no order clerks. This Department is flexible enough so that with no difficulty it can accommodate sufficient employees in the peak season and a single employee in the dull season. On the table itself are twenty-five trays containing the Addressograph plates filed alphabetically for each fueloil and service customer.

*Modern Heat & Fuel Co., Philadelphia.



Dispatch room—*five operators work here. Zoning rack on wall rolls to all positions.*

With this brief picture in mind let us see what happens from the time an order is received until after the delivery has been made. Let us assume that Mrs. Jones orders oil on April 10 for delivery on the afternoon of April 12, that her coupons are on deposit with us, and that she only has 190 gallons of valid coupons available. Upon phoning our office she will be referred to our Dispatch Department and an order clerk will take her order. We will then pick out Mrs. Jones' plate and print the order on what we call an "Oil Order Form," which is made in triplicate with one-time carbons, on a small Addressograph printing machine placed in the front of the table convenient to the trays. The order will show all the information which is on the plate and the clerk will fill in the following blanks after time-stamping the order on an electric time stamp:—her employee number, the time wanted, and the number of gallons ordered. We will assume in this case that Mrs. Jones wanted the tank filled and did not know how much oil was in her tank at the time she placed the order.

The order will have been plated on an Order Form which has "W.H.C." printed on it, meaning We Have Coupons. If Mrs. Jones retained her coupons the order would have been stamped on a form bearing the letters "P.U.C." meaning Pick Up Coupons on delivery. The Order Form now goes to the Rationing Department where the blank before the words "gallons fueloil" will be filled in "190 only," and the employee number of the person who approved the amount. From here the Order Form goes to the Credit Department unless the credit information on the plate says O.K., in which event this step may be omitted. When the order has been approved by the Credit Department the credit instructions are noted in the space provided on the Order Form. The order is now returned to the Dispatch Department where it will be placed in a tray with all other orders taken on the same day for future delivery.

The dispatcher will then take these orders and place them in the top bin according to proper zone. Each top bin is subdivided into two sections, the section on the left containing orders for the following day and the section on the right containing orders for dates beyond that day. Mrs. Jones' order will therefore be placed in the right hand half of the top bin. The night dispatcher just before finishing his work on April 10 will place Mrs. Jones' order in the left hand half of the top bin for the next day. On the night of April 11 he will place Mrs. Jones' order in the middle bin, which contains all orders for delivery the same day. He does this work at the completion of his other duties so that when the day dispatcher comes on duty it is merely necessary for him to look in the middle row of the bins to see what orders he has for delivery that day.

In the latter part of the morning of April 12 the dispatcher will receive a telephone call from one of the drivers over one of the unlisted phones, saying he has completed his first load and is ready to receive the orders for his second load. (The office is not located at the plant and the drivers do not receive their orders in person except when they start on their first load in the morning.) The dispatcher will give the driver Mrs. Jones' order together with other orders in the immediate neighborhood. Actually the dispatcher would have made up the load before hearing from the driver, and in order for him to make up a load covering the shortest mileage, when there are insufficient orders from any one bin, it is merely necessary for him to take orders from adjoining bins, representing adjoining zones.

The dispatcher will now fill in the blank appearing next to the word "Truck" on the Order Form, the number of the truck which was given Mrs. Jones' order. Her order will be placed in the bottom bin, which like the top bin is also divided in half. The left hand side is devoted to orders which are on trucks, in the process of being delivered. When the same driver receives his next load of oil, Mrs. Jones' order and all other orders in the same load will then be transferred to the right hand half of the bottom bin which denotes all orders which have been delivered.

Work of Night Dispatcher

After all deliveries for the day have been made and the drivers have returned the trucks to the garage they turn in their Time Sheets, which have been made out in duplicate, to the night dispatcher. The duplicate copy of the Time Sheet is clipped to an envelope containing cash or checks the drivers received during the day and an envelope containing coupons from the deliveries where coupons were picked up. The Time Sheet shows, besides each delivery made, any cash or checks which have been collected and any coupons which have been collected. This is then dropped into a slot in the top of a safe just outside the Dispatch Department and in the morning the cashier will collect all of these reports and envelopes.

The night dispatcher now associates the driver's delivery tickets with the proper Order Forms. Each driver's delivery

tickets are attached to the driver's daily Time Sheet and sent to the Bookkeeping Department.

The following day the Bookkeeping Department will tear the Order Form apart into its three separate copies. The original is used by the Bookkeeping Department in charging the customer, and because it has been made from the Addressograph plate, there is no chance for error in either the name or the address, such as can occur when the Bookkeeping Department must depend on the driver's handwriting. The duplicate copy is sent to the Rationing Department where the delivery will be posted on a Kardex card and Mrs. Jones' coupons removed from her folder and the 190 gallons clipped from her ration sheet. The triplicate copy will be separated by salesmen's numbers and used for commission purposes.

In normal times when we do not have the headaches of rationing, the duplicate copy is used in automatic delivery service and filed by Degree Days for Mrs. Jones' next delivery. Assuming that her next delivery would be due when we had reached 4800 Degree Days, this copy would be removed from the Degree Day file when we had reached 4800 Degree Days and an Order Form printed just as we had done when Mrs. Jones ordered by phone. However, since she is an automatic delivery account in normal times, the Order Form would be headed "Oil Schedule," printed in red to distinguish it from an order placed by a user on order service, whose Order Form is printed in black and is headed "Oil Order."

The Service Department's office adjoins the Dispatch Department and in the Service Department we file, by address, a folder for each service customer. On the front of the folder an impression of the plate for that customer is printed. If a new occupant should move into the house an impression of the new plate will be printed on the folder, as will any changes in the information that may occur, such as the installation of a new oil burner or the installation of a summer and winter hook up. In this folder is filed the original copy of all service call tickets. The tickets are printed in duplicate and where the call is made on a charge basis, the duplicate is mailed to the customer as an invoice.

When an order clerk takes a service call the call is printed on a "Service Order," similar in appearance to the oil Order Form, showing the following information:—the nature of the complaint, number of the employee taking the call, and it is then time stamped. The form is then placed in a file mounted in the partition between the Service Office and the Dispatch Office. There are three rows of bins, the top row representing routine calls, the middle row representing emergency calls, the left-hand half of the bottom row indicating the call has been given out, and the right-hand half of the bottom row indicating the call completed.

When the call is given to one of the service men it is again time stamped to show the time the call was given to the service man and the service man's employee number written in the appropriate space. The following day all the calls made by any particular service man will be separated and compared with his Time Sheet for the day, together with the Service Recorder Chart from his service car. Because the service manager may frequently desire to obtain some information from this file we have mounted it on a swivel so that it is merely necessary for him, while remaining seated, to turn the file so that it faces him instead of the Dispatch Dept.

The advantages of having all the calls filed by address rather than customers' names are considerable. It combines the complete service rendered from the time the account was opened and it enables the file clerk, when filing these reports, to notice immediately any account where the service has been frequent and to call it to the attention of the service manager.

Demand for Burners Far Ahead of Present Output

MONTHLY OILBURNER REPORTS from the Bureau of the Census, effective with January this year, have been revised to show significant detail as to the type of burner and the construction of units reported. The value of such detail in the report is immediately apparent when the new vital statistics on the industry are examined. The present reports show how inadequate are the current attempts of the industry to keep pace with the demand from the field, and fairly shouts for some revision of the system now vainly struggling to supply essential demand.

Domestic oilburner production now is reported by type of burner for the first time, allowing a more accurate study of the industry's manufacturing activities. These figures include those burners and units made and shipped to various war agencies as well as to dealers for essential civilian use. No breakdown is possible at this time, but the totals revealed for January and February this year fall far short of civilian requirements alone.

Total industry production of domestic oilfired units and conversion burners for all purposes in the first two months this year was little more than a third of the allowable production for civilian use alone. There were 3,345 total domestic burners and units produced in January, and 4,301 produced in February compared to an allowable civilian quota of 10,000 a month. Only 57% of this production was high pressure conversion burners which are in the greatest demand.

While the industry was producing 7,646 new domestic burners and units in the first two months this year, manufacturers' stocks shrunk 2,133 to total only 6,916 at the end of February. Of these units in stock, only 569 were high pressure conversion burners, or less than 9%.

Shipments during the first two months totalled 9,738 conversion burners and units, of which 5,140, or 53%, were high pressure conversion burners.

The backlog of unfilled orders for domestic equipment stood at 19,511 at the end of December, but had climbed to 30,470 at the end of February, or more than a full quarter's allowable production. These unfilled orders are more than 61% for high pressure conversion burners, representing 18,659 at the end of February.

While domestic burner manufacturers were producing 3,345 conversion burners and units in January, they received new orders (less cancellations) totalling 10,461, and while producing February's 4,301 burners and units, new orders amounted to 9,096. Shipments for the two months accounted for only 9,738, or less than authorized for one month.

(*Continued on page 86*)

Tomorrow's Fueloil

The Effect of Catalytic Distillates on Home Heating Oil Quality

by
W. A. Sullivan*
and
E. B. Glendenning*

In the April issue appeared an article, "Service with Wartime Fueloils," which was somewhat critical of catalytic oils and their effect on burners, as encountered by burner servicemen.

Refiners have taken exception to some of the statements in the article, feeling that catalytic cracking is being blamed for unrelated wartime troubles. Some of these troubles, they point out, result rather from the need to find and use every possible gallon of product, including some marginal material that in peacetime would have been diverted to uses other than home heating. Excessive sulphur, carbon and gum in some oils now on the market are more the result of "scraping the barrel" than of catalytic methods, they explain.

In this article Messrs. Sullivan and Glendenning outline the catalytic fueloil experiences of Shell at its Wood River and Sewaren laboratories. While not written specifically to answer the April issue article, it is a significant contribution to current thought on the subject. (Edit.)

THE LARGE NUMBER OF CATALYTIC cracking units which have been built throughout the country since the outbreak of the war constitute the oil industry's answer to the enormous military demands for high octane aviation gasoline which has proved so essential to the successful prosecution of the war. On the surface, it may not be apparent to the average oilburner owner as to how the production of aviation gasoline in 1945 is going to have any bearing on the performance of his oilburner in 1955, but when it is realized that on the average for every gallon of catalytically cracked gasoline an equal volume of fueloil distillate is produced, and that catalytic cracking will be used extensively postwar for the production of automobile fuels, it is safe to predict that catalytic distillates are here to stay, and as time goes on they will undoubtedly assume increasing importance as a major component of domestic fueloils.

The question naturally arises both within the oil and oilburner industries as to ability of catalytic fueloils to give satisfactory burner performance comparable to that obtained on prewar fuels consisting predominantly of straight run and thermally cracked distillates. With the answer to this question as an objective, the evaluation of the performance characteristics of catalytic distillates and finished blends representing indicated postwar quality has been a major project at Shell's Sewaren Oil Burner Laboratory. Field tests on commercial blends consisting predominantly of catalytic distillates, as well as laboratory tests under closely controlled simulated service conditions have been conducted on the three major types of burners, namely; (1) gun-type, high and low pressure atomizing, (2) vertical rotary wall flame, and (3) pot-type vaporizing, both natural and forced draft. Catalytic distillates produced by different processes, from various types of charging stock, and under a variety of operating conditions were compared with straight run distillates, and blends of straight run and thermally cracked distillates representing normal prewar quality.

But before proceeding further, it should be pointed out that no single sample can possibly be representative of all types of catalytic distillates, and the following discussion must be considered in terms of averages rather than in relation to any particular fuel or burner. It is true that catalytic distillates in the same boiling range, produced from the same type of charging stock and under similar operating conditions will have certain common characteristics, regardless of the particular type of process used in producing them. But depending on such variables as cracking temperature, the source of crude from which the charging stock is derived, the boiling range of the charging stock, etc., catalytic distillates may be produced in the No. 2 fueloil boiling range varying in A.P.I. gravity all the way from 16 to 36 degrees, with correspondingly large differences in other respects. Incidentally, this is highly advantageous from a refinery operations standpoint in that it permits wide flexibility in meeting varying demands for different products. This will be especially desirable during the transitory period following the war when the emphasis will shift from the production of war supplies to normal peacetime operations. It will also be helpful in meeting peacetime seasonal demands for gasoline and fueloil. However, with so much latitude in quality possible, it is obviously impossible to offer a general description that will fit all catalytic distillates, and by the same token, the fallacy of branding all fueloils produced by catalytic cracking as unequalifiedly "good" or "bad" is apparent. Therefore, in a discussion of this kind, the most that we can hope for is to point out certain general trends governing postwar fueloil quality that are indicated on the basis of our studies and general knowledge of the subject.

Similar to Thermal Cracked

In many respects thermally cracked distillates, which we have had with us for years, and distillates produced by catalytic cracking are quite similar. Both are apt to be lower in gravity than straight run stocks in the same boiling range, and both catalytically and thermally cracked distillates can be expected to have a greater tendency to smoke and build up carbon deposits under adverse burner operating conditions than uncracked distillates. So we are not dealing with an entirely new type of fuel, and much of the background of experience that we have built up over the past ten years in burning and handling distillates produced from thermal cracking is directly applicable to catalytic distillates. The main reason that so much attention has been focused on catalytic, while thermally cracked distillates have been used successfully in blends with straight run materials for years and have

*Shell Oil Co., Inc. Sullivan is senior applications and development engineer of Shell's manufacturing department, New York, and Glendenning is manager of Shell's Sewaren, N. J., fueloil and oilburner laboratory.

gone virtually unnoticed, is because of the greatly increased production of cracked distillates which has attended the industry's stepped up program for the production of high octane aviation gasoline for military purposes. The necessity of using straight run distillates as feed stock to the cracking units, thus further reducing the ratio of straight run to cracked distillates available for use in heating oils, has also served to direct attention to the probable effect that this will have on the general heating oil picture.

It appears that the major change in domestic fueloil quality that can be expected to result from the increased use of cracked distillates will be a matter of degree rather than of kind. In some ways catalytic distillates as a class appear to be superior to comparable thermally cracked and straight run stocks. Contrary to the general impression that has been given rather widespread publicity, catalytic distillates as a whole have been found to be cleaner, with less tendency towards deterioration and formation of sediment upon aging, than thermally cracked distillates. This is not surprising in view of the fact that the conditions which prevail in thermal cracking tend to favor the production of olefinic (unsaturated) hydrocarbons, which as a group are inherently less stable than the aromatic compounds which predominate in catalytically cracked products. It has also been found that the relatively small percentage of unstable constituents present in catalytic fueloil distillates respond quite readily to removal by acid treatment as compared to thermal and straight run distillates. Thus, it would appear that cleaner and more stable burner fuels are in prospect postwar as the use of catalytic distillates increases. This is particularly significant at this time in view of the trend towards the increasing use of burners which operate at relatively low burning rates and thus are more susceptible to nozzle and oil metering valve clogging than the larger sizes.

And what is equally important, it appears on the basis of both laboratory tests and the field performance of commercial blends that catalytic fuels are non-corrosive to copper lines and brass and copper burner parts. This is in line with analytical data which indicate that any corrosive compounds that might be present in the feed stock are removed during catalytic cracking and subsequent treating processes or else they are converted to non-corrosive forms.

As to distillation characteristics, blends containing high percentages of catalytic distillates are apt to be lower in front end volatility than comparable blends made from thermally cracked or straight run distillates. This is because the fractions of catalytically cracked material boiling up to as high as 425°F. or more have a high octane rating and thus make excellent motor fuel, whereas comparable high boiling gasoline fractions from straight run or thermal cracking operations are of little value as motor fuel and therefore are left in the kerosene or light fueloil cuts. The far-reaching effects of this will be to reduce the ultimate supply of these lighter distillate fractions for use in kerosene and light fueloil, and as time goes on, we can expect domestic heating oils of higher flashpoints, higher initial boiling points, and higher 10% distillation points than we have been accustomed to in the past.

However, the lack of front end volatility will be compensated to some extent by lower endpoints and 90% distillation points, which are more or less characteristic of catalytic distillates, due to the relatively light feed stocks employed in catalytic cracking operations. In analyzing a large number of catalytic distillates from different types of operations, it was found that the ASTM distillation endpoints rarely exceeded 630°F., whereas endpoints above 700°F. are not unusual for thermally cracked and straight run distillates. With reduced endpoints one can reasonably expect fuels lower in carbon residue content also, since these two properties generally go hand in hand, all other conditions being equal. Thus, it appears that the shift towards the middle on both ends of the distillation range will have no important effect on burner performance, except in the case of a relatively few vaporizing burners which require a low 10% distillation point for quick lighting from a cold start. In so far as atomizing burn-

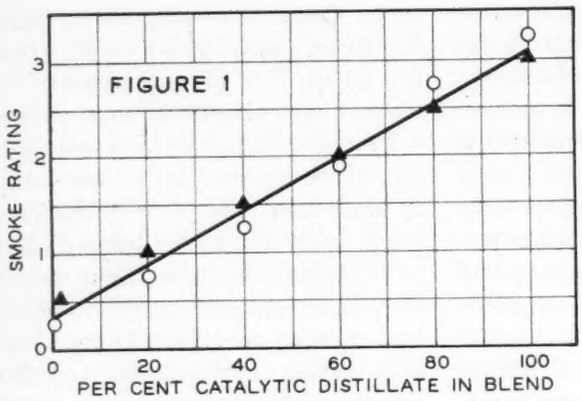
TABLE I

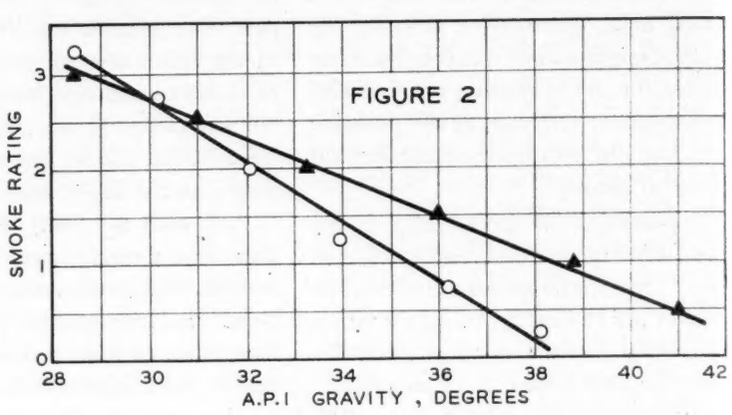
Properties of Fueloil Blends On Which Oil Burner Performance Tests Were Conducted

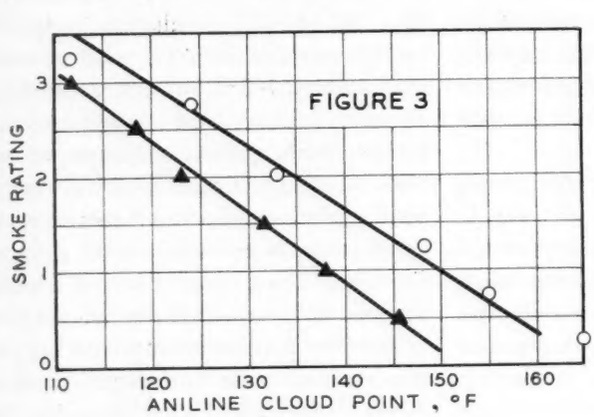
COMPOSITION:											
Catalytic Distillate, %v	—	20	40	60	80	100	—	20	40	60	80
Straight Run Distillate, %v	100	80	60	40	20	—	—	—	—	—	—
Kerosene, %v	—	—	—	—	—	—	100	80	60	40	20
PROPERTIES:											
Gravity, °A.P.I.	38.1	36.2	34.0	32.1	30.2	28.5	41.2	38.8	35.9	33.3	30.9
Flash Point, P.M., cc, °F.	170	176	182	184	192	194	134	—	—	—	—
Color, N.P.A.	1	1½	1½	1½	1½	2	—	—	—	—	—
Sulphur, %w	0.14	0.17	0.41	0.55	0.56	0.70	—	—	—	—	—
B. S. & W. %v	None	None	None	None	None	None	—	—	—	—	—
Carbon Residue on 10% Btms., %w	0.02	0.04	0.06	0.08	0.10	.10	—	—	—	—	—
Ash, %w	Trace	Trace	Trace	Trace	Trace	Trace	—	—	—	—	—
Viscosity, S.U. @ 100°F., Sec.	37	35.5	35.5	35	35	34.5	—	—	—	—	—
Copper Strip Corrosion @ 212°F.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.
Aromatics, %v	16	19	25	33	38	44	16	22	27	33	38
Aniline Cloud Point, °F.	165	155	148	133	124	111	146	139	131.5	123.5	119
Diesel Index No.	63	56	50	43	37.5	31.5	60	54	47	41	37
Heating Value, B.t.u./Gal.	136,940	138,080	139,400	140,540	141,680	143,800	135,100	136,520	138,260	139,820	141,260
ASTM DISTILLATION:											
Initial Boiling Pt., °F.	362	374	392	400	410	422	346	352	358	362	387
10% Recovered @	472	470	469	469	467	469	394	408	421	433	448
50% Recovered @	532	526	515	511	504	499	450	460	471	480	491
90% Recovered @	592	585	574	568	558	550	510	518	526	538	545
Final Boiling Pt.	654	653	636	636	630	636	548	574	598	620	627
Recovery, %	99	99	99	99	99	99	99	99	99	99	99
Residue, %	1	1	1	1	1	1	1	1	1	1	1

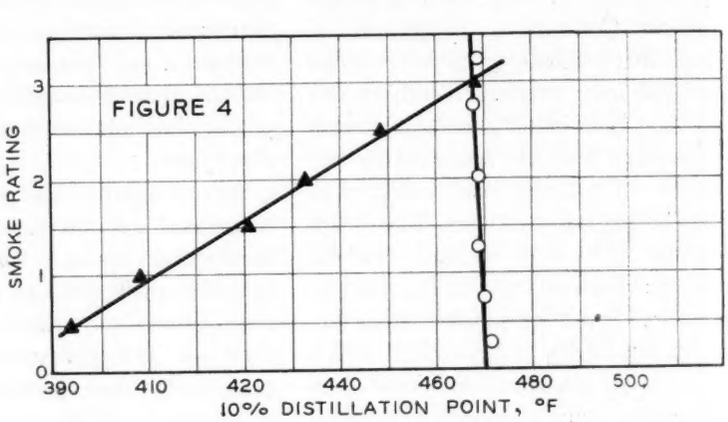
The Effect of Various Fueloil Properties on the Tendency of the Fuel to Smoke in Oilburner

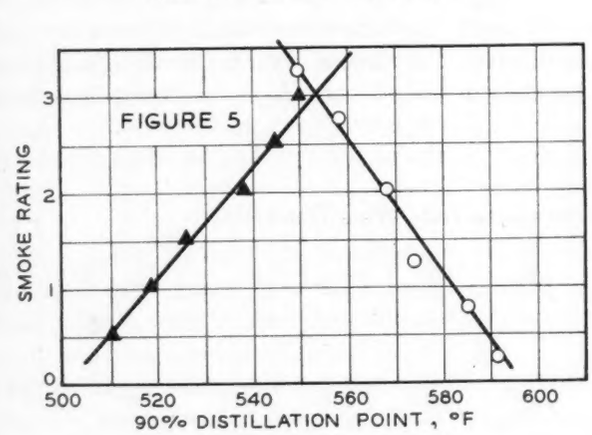
LEGEND: ▲ Cat. Cracked Distillate – Kerosene Blends
○ Cat. Cracked Distillate – Straight Run Dist. Blends

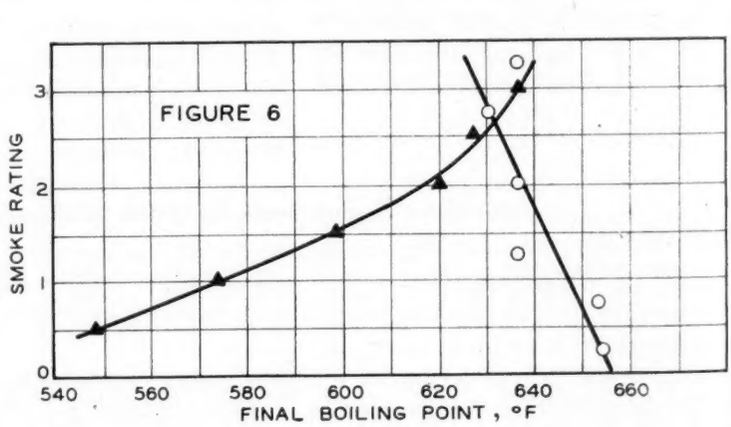


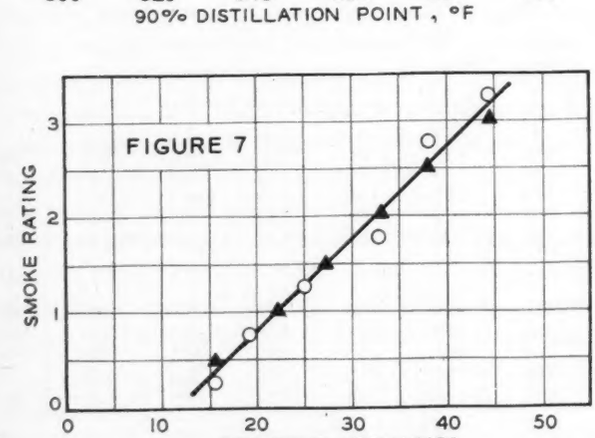


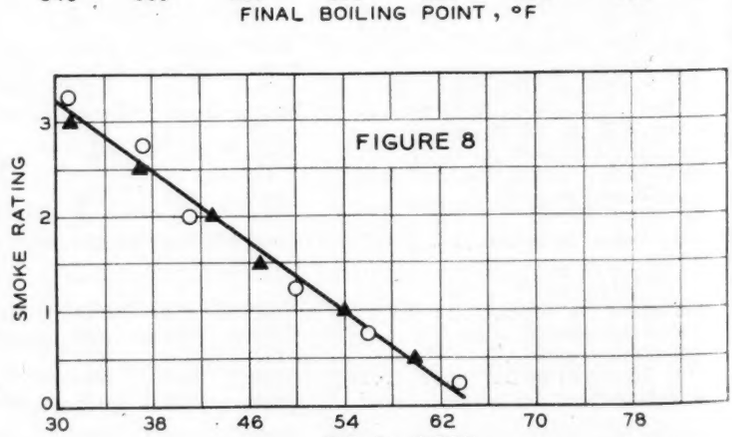












ers are concerned, we have nothing to worry about from this score, inasmuch as the ignition characteristics of the fuel in these burners depend primarily on the extent of atomization and intimate air-fuel mixing rather than the fuel volatility.

In viscosity, and therefore, in atomization characteristics, catalytic distillates are for all practical purposes no different from thermal or straight run distillates in the same boiling range. Catalytic distillates are, however, appreciably lower in pour point and higher in heating value than straight run distillates. It may be seen from Table 1 that the catalytic distillate ran about 7000 B.T.U. higher in heating value than the straight run distillate.

Effect on Burner Operation

This brings us up to the question as to what effect on burner performance we may expect in the future from the increased use of catalytic fuels, and why. As mentioned previously both thermal and catalytic distillates show a greater tendency to smoke and carbonize under adverse burner operating conditions than straight run distillates in the same boiling range. However, this does not imply that cracked fuels cannot be burned perfectly clean and free of smoke under favorable operating conditions. And the extent to which these conditions can be realized in the field will depend on the particular installation involved, as well as on the type, design, and adjustment of the burner itself. The same can be said of straight run distillates, for that matter. But the difference in sensitivity to burner operating conditions between the two types of distillates is directly related to difference in hydrocarbon composition.

In cracked fuels you have a relatively high percentage of aromatic compounds present which due to their chemical structure are not readily oxidized. Therefore, when they are subjected to extremely high temperatures thermal decomposition occurs. That is, the carbon and hydrogen are split apart, and are burned separately to form carbon dioxide and water. Unless there is sufficient air (oxygen) surrounding each liberated particle of carbon while it is at high temperature, it gets away without being burned and we recognize it as smoke or soot. On the other hand, in the burning of naphthenic and paraffinic compounds characteristic of straight run fuel, combustion tends to proceed in a more orderly fashion, taking place progressively as the temperature increases, with the formation of intermediate products which in turn are finally burned to carbon dioxide and water. So in each case, we start with the same essential elements—hydrogen, carbon and oxygen, and wind up with the same products of combustion — carbon dioxide and water, the difference being in the routes by which these end products are reached.

And the completeness with which the various combustion stages are carried out in either case is entirely a matter of how well the oil is prepared by the burner for each step in the combustion process best suited to the type of fuel being burned. Cracked fuels differ from straight run fuels in that they generally require more thorough pre-mixing of the air and oil before combustion begins or in the early stages of the combustion process in order to prevent smoke and carbon.

During the course of our investigation, burner combustion tests were conducted on two series of fuel blends containing varying concentrations of a representative catalytic distillate. In one series, the catalytic distillate was blended in twenty percent increments with a straight run distillate. Both components were similar in boiling range, thus resulting in blends of fairly uniform distillation characteristics. In the other series, the same sample of catalytic distillate was blended in comparable concentrations with kerosene, so that the blends in this series varied appreciably in distillation characteristics as well as in hydrocarbon composition. For composition and properties see Table I.

These blends were burned in a domestic oilburner purposely set to bring out differences in the tendencies of the fuels to smoke. The following conditions were held constant throughout the tests:

Burning rate .....21 lbs./hr.
Stack Draft ..... .03 in. water column
CO_2 in flue gases 13%

The relative tendency of the fuel to smoke under these conditions was measured by a special Shell test which consisted of drawing a sample of the flue gases through a small disc of filter paper for a period of one minute, and then matching the discoloration produced by the accumulation of soot on the filter paper with a standardized smoke chart to give a relative rating ranging from 0 to 9. A perfectly clean or white disc is rated "0," while a black disc is rated "9," the intermediate ratings being indicated by different shades of gray.

In Figure 1 the smoke ratings obtained on the various blends are plotted against the percentage of catalytic distillate used in the blend. It will be seen that the tendency of the blend to smoke under the test conditions increased with increasing concentrations of the catalytic distillate. And it is of interest to note that the relative effect of the catalytic distillate was practically the same regardless of whether it was blended with the straight run distillate or with the kerosene, both of which gave approximately the same smoke ratings unblended.

Figures 2 to 8 show the correlation or lack of correlation between the smoke ratings obtained on the various blends and some of their physical properties, given in Table I. Both sets of data showed a rough correlation between the performance of the fuel and its A.P.I. gravity (Fig. 2). At the lower end of gravity range covered the correlation was fairly close but there was a considerable spread between the two sets of data at the upper end of the range. The aniline cloud point (Fig. 3) also appeared to be related to the tendency of the fuels to smoke, but the data for the kerosene blends fell well under those of the straight run blends, at all points along the curve, thus making it difficult to predict the performance of the fuels from the aniline plant alone without knowledge of their compositions. Figures 4 to 6 show very poor correlation between the performance of the blends and their distillation characteristics. In the case of the kerosene blends there was an increase in smoke with lowered volatility (increase in boiling point), but the reverse relationship was indicated by the data on blends made up of the catalytic and straight run distillates. Thus it is obvious that to try to predict the performance of a fuel on the basis of its distillation characteristics alone might lead to a very erroneous conclusion.

The two properties of the blends which showed the best correlation with the smoke ratings obtained, regardless of the composition of the blends, were percent aromatics[1] and diesel index (Figs. 7 and

(Continued on page 82)

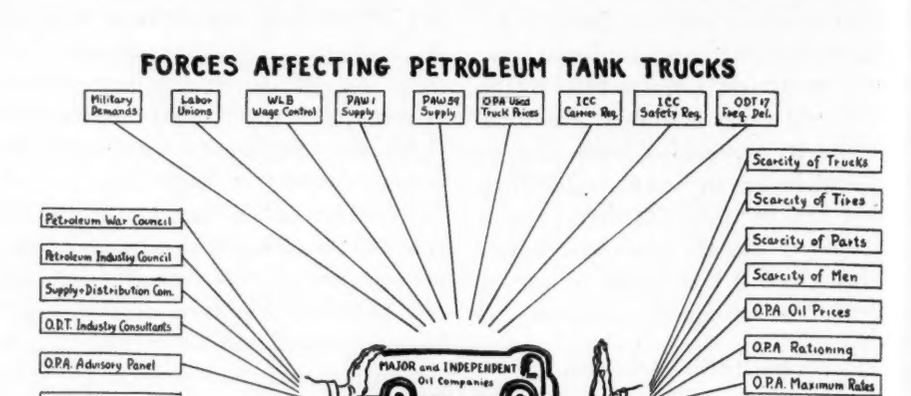
[1] Determined by absorption in 98% sulfuric acid activated by 3% silver sulfate.

Truck Operating Problems

Wartime Operations Disclose Deficiencies in Old Methods

by

J. F. Winchester*



FUELOIL and oilheating dealers are in the midst of a gigantic effort to keep home fires burning while their fellow citizens are conquering the enemy. The conflict we are engaged in has created problems on the home front which have been difficult to solve. However, the peaceful thinking American in all walks of life has responded to his country's call and we are all acquainted with the results.

World War I created many problems and from them emerged improvements in mechanical devices. The motor truck industry received its greatest impetus from the demands of that day, resulting in mechanical improvements that enabled highway transportation to develop into an industry which, in 1935, received national recognition when it was brought under regulation by the Interstate Commerce Commission.

World War II in which we are engaged at present will also be educational. I am certain the second national recognition of the highway transportation industry, whereby it has been regulated by ODT, OPA, WPB and PAW, has caused many operators to take a fresh look at their business. We have been dealing with these agencies, devising means to deliver meager supplies while forced to operate worn, decrepit, high cost equipment. In the meantime, the automotive engineers and manufacturers have been working with the armed forces to develop many new ideas which promise to bring economies in operation to the post-war period.

As we approach the end of the European conflict, it behooves all engaged in the highway transportation industry to take an inventory of their equipment and past business practices. Motor equipment has aged from a mileage, years in operation and obsolescence standpoint, all of which promise high operating costs for the immediate future.

All of us know that these can be corrected by the mere replacement of present-day equipment with new apparatus which can be a duplicate of what we are operating; but, will that be enough to satisfy you? It won't be for me because many conditions have changed, much new equipment has been developed, and further, you may not have used vehicles best suited to your operating conditions. Even if they were when installed, they may be obsolete today.

The heating oil business in its many ramifications is a complicated one and to simplify it there is need for a wholehearted cooperative effort between the nation's welfare planners, architects, home builders and owners, together with the oil industry. During this war-time period, as a group they can lay the ground work for better planning which would be for the welfare of all. I have in mind the possibilities of larger average deliveries if the size of storage tanks could be increased in the thousands of new homes that will be constructed; the vexations, delays and costly repairs caused by poorly constructed or too narrow driveways can be avoided; and we need more accessible locations for fill pipes, more distinctive methods of marking their location and better "full" and "empty" markers for the home owners.

There is no time like the present to get under way with such ideas and my suggestion is that the industry's present advisory groups set themselves up as a post-war planning committee so that the benefits which have been gained under war-time operation may become permanent. Surely such committees offer a direct opportunity for all branches of the industry to work in harmony, while improved practices are being devised and undesirable marketing activities are discussed and eliminated.

There are many forces working for and against the oilheating business. These can be visualized by the above diagram

*Manager, General Automotive Div., Standard Oil Co. of New Jersey. This is the first of a series by Winchester on truck and equipment trends and operating improvement possibilities.

which was worked up by Mr. Carl A. Goddard and myself while we were consultants with the Office of Defense Transportation and clearly illustrates the many organizations and forces that are interested in and have a bearing upon the industry with which we are associated.

From a highway transportation standpoint, the business divides itself into two categories; first, there is bulk hauling from terminals to bulk plants and second, distribution to homes. Both are important to the dealer and an inspection of both fields at the present time will show that much of the power equipment in operation throughout the country is in poor mechanical condition, and many semi-trailer tank units have been outmoded through the help rendered by the Petroleum Carrier Section of the Office of Defense Transportation which, under the direction of Mr. Fayette B. Dow, applied conscientious effort toward obtaining for our industry a high priority rating with state legislators, local officials and governmental bureaus. As a result we commence to see some semblance of acceptance and the installation of regulatory measures much more sensible and better adapted to the business because they are founded upon sound engineering practices.

To illustrate the contribution of the private carriers, among which can be grouped the motor trucks operated by the Petroleum Industry, Colonel Johnson recently said he estimated the industry had made a saving of twelve billion miles, or 33%, over the 1941 figures as shown on the Certificates of War Necessity. There is no doubt in anyone's mind that the hundred thousand or more units, engaged exclusively in the hauling of petroleum products, contributed their just share of this saving because both the late Commissioner Joseph B. Eastman and Colonel Johnson have credited this group with an outstanding performance and have said a great deal of credit is due carriers who have voluntarily maintained their operations within the limits of ODT orders in the face of handling increased tonnage under adverse conditions. When we consider the original request by the Office of Defense Transportation under ODT General Order No. 17 to save 25% in mileage, it can be seen that private carriers responded wholeheartedly.

The industry must seek ways and means to avoid getting back to the old wasteful practices. I have pointed out that in the bulk hauling business standardization of ODT on the 40,000 lbs. gross weight basis has assisted the industry very materially; but, of greater importance and frequently overlooked is another outstanding factor; namely, within the last few years studies have been made by Congress and the Federal Bureau of Roads which have resulted in a post-war planning committee making recommendations to Congress for new post-war highways to be developed along improved lines. The gentlemen who planned these highways have tried to look ahead at least twenty years and in their recommendations they have stated passenger car speeds should be not less than 50 miles per hour; while motor truck speeds on these same highways should be not less than 35 miles per hour.

To bring yourselves up-to-date on this situation, study report House Document #379, wherein it is stated on page 94 that:

"1. The interregional highway system,

.....

Estimated Operating Costs 4000 Gallon Unit

GALLONS CAPACITY 4000
GROSS WEIGHT 40000
TYPE .....Tractor Semi-Trailer

	Investment		*Annual Book Depreciation*		
CHASSIS @	$ .87 /gal.	$3500	@ 17.5%	$615 or $.155/gal.	
TANK UNIT @	.75 /gal.	3000	@ 10.0%	300 or .075/gal.	
TOTAL @	$1.625/gal.	$6500		$915 or $.230/gal.	
OPERATION BASIS ...	100%	120%	80%	60%	40%
Number of Shifts	2	2	2	1	1
Number of Drivers	2.5	3.0	2.0	1.5	1.0
Annual Hours	5000	6000	4000	3000	2000
ANNUAL FIXED COSTS					
Interest @ 3%	$200	$200	$200	$200	$200
Insurance	150	150	150	150	150
License	350	350	350	350	350
Accounting, etc.	250	300	200	150	100
Supplies	200	240	160	120	80
Sundries, Incl. Wash & Grease	250	300	200	150	100
Road Expense	250	300	200	150	100
Damage to Property	100	120	80	60	40
ANNUAL FIXED COST. (Not Incl. Deprec. or Driver)	$1750	$1960	$1540	$1330	$1120

FIXED COST PER HR. .. (Not Incl. Deprec. or Driver)	$ .35	$ .35	$ .33	$ .33	$ .39	$ .39	$ .45	$ .45	$ .56	$ .56
DRIVER COST PER HR.	1.25	1.00	1.25	1.00	1.25	1.00	1.25	1.00	1.25	1.00
TOTAL COST PER HR. INCLUDING DRIVER ..	1.60	1.33	1.58	1.33	1.64	1.39	1.70	1.45	1.81	1.56

VARIABLE COSTS—CENTS PER MILE

DEPRECIATION			*High*	*Low*	*Average*
Chassis	$3500.....	{High + 250,000 miles} {Low + 500,000 " }	1.4¢	.7¢	1.0¢
Tank	$3000.....	{High + 500,000 " } {Low + 1,000,000 " }	.6¢	.3¢	.5¢
Total			2.0¢	1.0¢	1.5¢
Repairs			3.5¢	1.4¢	2.0¢
Tires		{High $500 + 35,000 mi.} {Low 500 + 65,000 " }	1.5¢	.7¢	1.0¢
Gas & Oil			3.0¢	1.9¢	2.5¢
TOTAL			10.0¢	5.0¢	7.0¢

COST OF LOADING & UNLOADING STANDING TIME

Loading Time .....20 Minutes
Unloading Time .....25 "
Miscellaneous .....30 "
Total Standing Time ...1 Hr. 15 Minutes

Cost 1 hr. 15 min. @ $1.60 .....$2.00
Cost per Gallon ..... .05¢

TO OBTAIN DELIVERY COST PER GALLON:

Multiply one-way miles by cost per gallon mile and add .05¢
Example: One-way miles—100
100 miles x .0058 = .58¢
Loading & Unloading Cost ..... .05¢
Total cost per gal. .63¢

as it is hereafter constructed or improved, shall provide or allow for the subsequent provision of facilities capable of serving safely and efficiently a mixed traffic of passenger automobiles, motor busses, and motor trucks, and tractor-trailer and semi-trailer combinations, of a volume of each of the constituent elements estimated to be that which will exist 20 years from the date of construction.

"2. All roadways and structures built on the interregional system shall provide, either in their immediate design or feasible modification thereof, for the passage and support of vehicles and combinations of vehicles of the following dimensions and weights, in the frequency and distribution of such dimensions and weights to be expected 20 years from the date of construction:

Width ..... 96 inches
Height ..... 12½ feet
Length (over-all, including bumpers and load):
Single vehicles ..... 35 feet
Tractor-semitrailer combinations ... 50 feet
Other combinations ..... 60 feet
Axle load* on pneumatic tires.. 18,000 pounds
(*) Defined as the total load on all wheels whose centers may be included between 2 parallel transverse vertical planes 40 inches apart.

Gross weight on any vehicle or combination of vehicles according to the formula.

$$W = C\ (L + 40)$$

In which:
W = gross weight of vehicle in pounds.
L = Length in feet between the forward and rear axles of the vehicle or combination of vehicles or any group of axles thereof.
C = A coefficient with the following values:
For values of L less than 18 feet 650
For values of L equal to or greater than 17 feet 750

"3. For purposes of the design of highway facilities and the application of standards and conditions hereafter recommended, all sections of the interregional system in or approaching a city or town and at least 1 mile long, along which intersecting roads or streets average one-quarter mile or less apart, shall be considered as urban sections, regardless of their locations within or without the corporate limits of cities. All other sections of the system shall be considered as rural sections, regardless of their location within or without the corporate limits of cities.

"4. All rural sections of the system shall be designed at all points and in all respects for safe travel by passenger vehicles at a speed of not less than 75 miles per hour, and by trucks and tractor combinations at a speed of not less than 60 miles per hour in flat topography. In more difficult terrain the speed for which the highway is designed may be reduced; but in no case to less than 55 miles per hour for passenger vehicles and 35 miles for trucks and tractor combinations in mountainous topography. All rural sections shall provide a sufficient number of traffic lanes and other facilities so that at no time, except during infrequent peak hours, will it be necessary because of the interference of other vehicles to reduce the average running speed to less than 50 miles per hour. All two-lane rural sections, on which the sight distance provided will not permit safe passing at the above design speed for passenger vehicles, shall be appropriately and conspicuously marked as no-passing zones or as zones in which passing is unsafe.

"5. All urban sections of the system shall be designed at all points and in all respects for safe travel by passenger vehicles at a speed of not less than 50 miles per hour, and by trucks and tractor combinations at a speed of not less than 35 miles per hour. All urban sections of the system shall provide a sufficient number of lanes and other facilities so that at no time, except during infrequent peak hours, will it be necessary because of the interference of other vehicles to reduce the average running speed to less than 40 miles per hour.

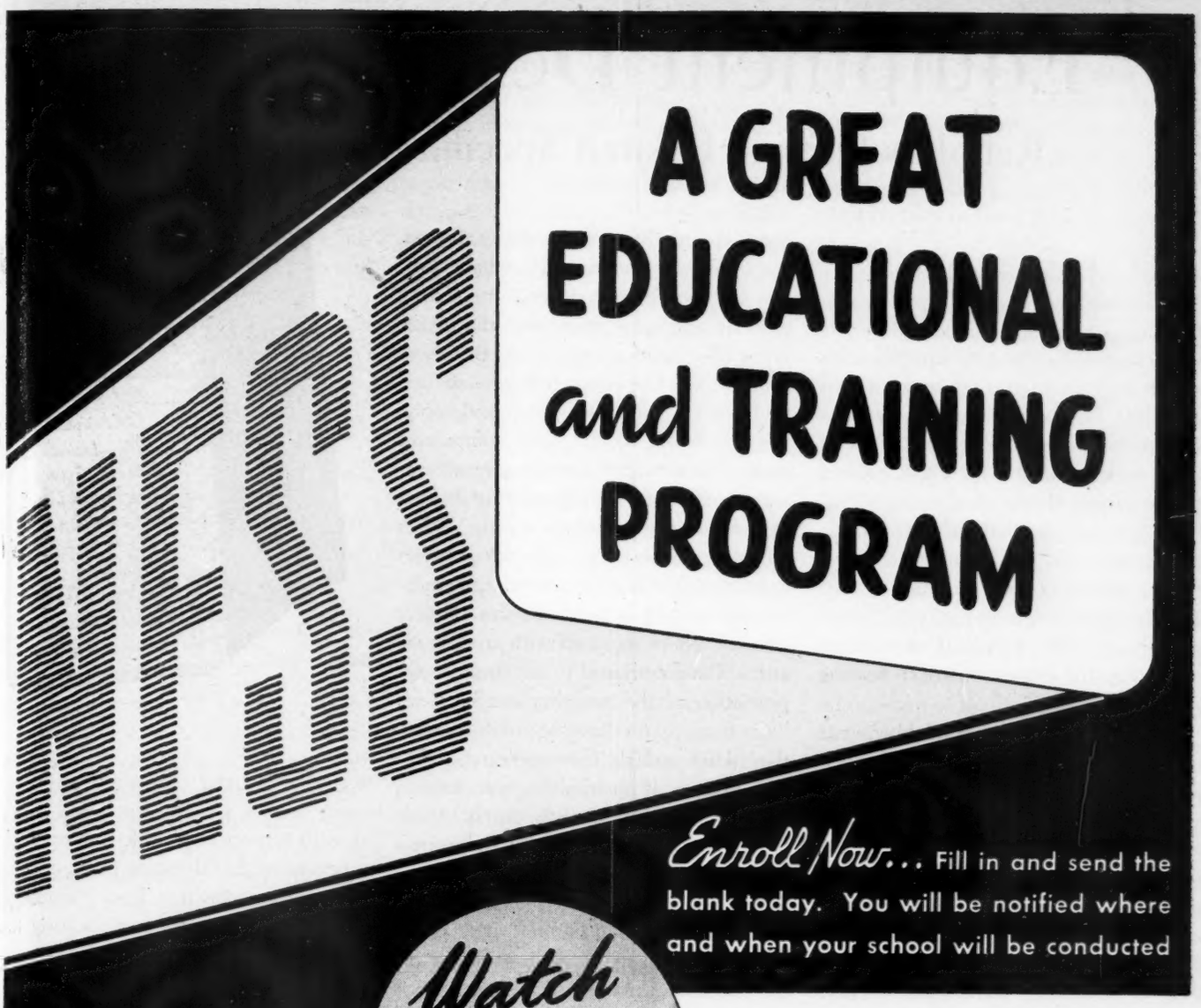
"6. Wherever financially feasible, the system shall provide continuous lateral space and adequate support for standing and disabled vehicles of the recommended maximum sizes and weights, clear of the road surface or pavement.

"7. All road surfaces, pavements, and structures on the system, when maintained with a reasonable expenditure of effort, shall be capable of supporting vehicles of the recommended weights without reduction of either weight or speed at any season of the year."

Planning departments of various states, highway engineers, motor vehicle commissioners and legislators are already adopting these standards, with the result that the so-called 4000 gallon units for the bulk hauling of fueloil, particularly in the Northeast Atlantic States, will become obsolete and units of much larger capacities will be employed. Some Northeast Atlantic States have been reluctant to follow the lead of New Jersey and New York who in previous years adopted standards along similar lines, which resulted in some companies employing units much larger in capacity than the so-called ODT standard of 4000 gallon with a gross weight of 40,000 lbs.

Separate and distinct trends that the fueloil dealer will have to watch during the adjustment from war-time to peace-time conditions are as follows: first, changes in bulk plant locations. There will probably be less instead of more of them for the installation of larger units and by-passing of service stations will make it more practical to operate from terminals than heretofore. Second, in some locations pipe line volume will decrease; while in other localities, we will find new extensions of them. Railroads no doubt will reduce rates in many localities to meet this latter trend. Third, tanker movements will tend to relieve pipe line operations in some localities. All of these factors will tend to create competition between carriers and will call for continuing studies of transportation methods and rates if the dealer is to keep his "laid-down" transportation costs at the lowest possible point.

Transport types. *The 6,000-gal. truck at the top and the 5,500-gal. in the middle, contrast with the 4,000-gal. ODT unit at the bottom.*



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Equipment Dealers Want

Retailers Outline Desired Specific Improvements

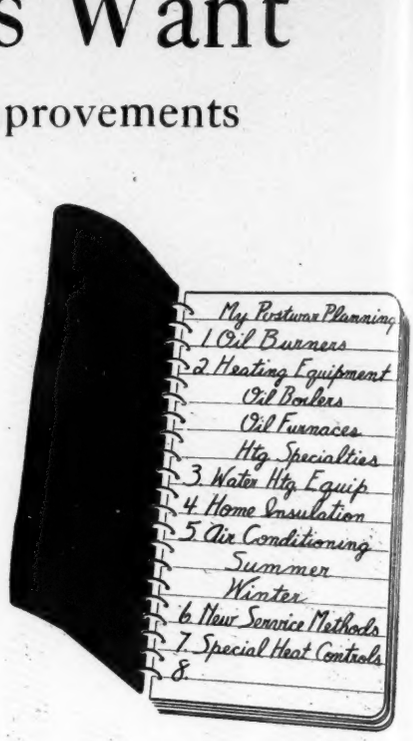
by
J. W. Schulz

RETAILERS of oilheating equipment, as well as manufacturers, are making definite plans for the postwar era, and the era that will come after that. Several dozen dealers recently were interviewed on this subject. From all the interviews, the fact stands out that these dealers do not intend to be caught napping. Each aims to protect his own interests against other dealers selling oilheating equipment, and all will fight vigorously any efforts to advance the causes of stoker heating and gas heating.

These dealers have mental blueprints for advancing into sales battles, once fuel-oil and oilheating equipment are again generally available. For example, one finds he must offer a complete line of oilheating equipment; just conversion burners and summer-winter hot water hook-ups won't do for the future. Another declares that the equipment he sells must bear the nameplate of a leading manufacturer. Year 'round sales activity will be more important than ever before. It will eliminate no-income and low-income months for valuable retail salesmen and the experts needed for best installation and service work.

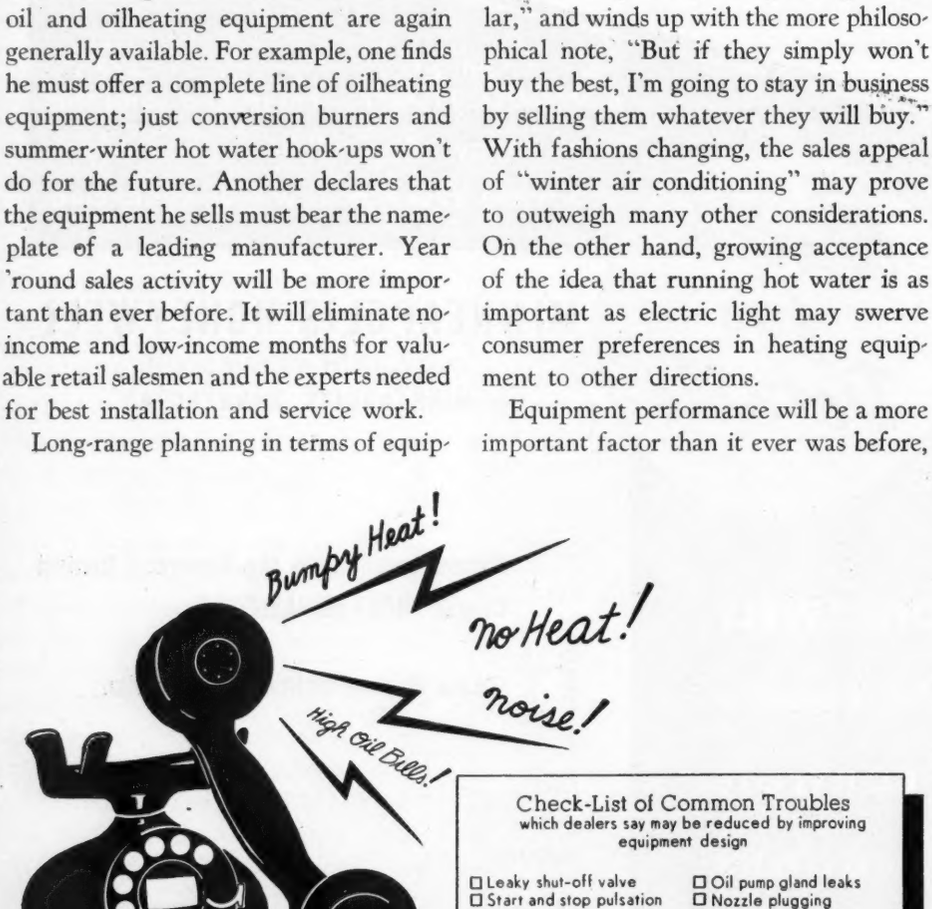
Long-range planning in terms of equipment technicalities is necessary for assured success, according to certain dealers, for success may depend on starting off with aggressive merchandising of the types of oilheating equipment that have good futures. Consumer requirements and preferences may change considerably. Thousands of modern small homes may create a demand for low-capacity oilheating plants. Builders and buyers of lowest-priced homes may, to hear certain dealers tell of it, prove very stubborn about selecting and tolerating exceedingly inexpensive heating systems. In this connection one dealer starts off with an enthusiastic, "I'm determined to sell them an appreciation of the best that can be given them in modern oilheating comfort when they don't quibble over spending a dollar," and winds up with the more philosophical note, "But if they simply won't buy the best, I'm going to stay in business by selling them whatever they will buy." With fashions changing, the sales appeal of "winter air conditioning" may prove to outweigh many other considerations. On the other hand, growing acceptance of the idea that running hot water is as important as electric light may swerve consumer preferences in heating equipment to other directions.

Equipment performance will be a more important factor than it ever was before, according to the considered opinion of many dealers. Quality levels will be higher with respect to trouble-free operation, quietness of the oilheating plant, and comfort and convenience. Fuel consumption must be lower for the same heating loads than it was in prewar years. These improvements should result from the new excellence of the equipment, and betterments in installation and service work.



The most interesting parts of the recent conversations with equipment dealers dealt with what they expected from manufacturers in specific improvements to equipment. Dealers in general look forward to loving and selling in the postwar days the same types of "name" equipment they recommended before the war. A dealer hopes the manufacturer of his favorite type of equipment will be able to improve it so that it can become still more popular. He wants the weak spots in his sales arguments strengthened, and he wants additional, worthwhile sales features.

Many dealers have been carefully weighing furnace-duct heating against boiler-radiator heating. Those in the furnace-duct fighting camp find their best sales appeal in "air conditioning" or "winter air conditioning." They desire to top this off with an answer to the problem of providing oilheated hot water in a 100%



"Equipment performance *will be a more important factor than it ever was before."*

satisfactory, dependable manner, using equipment low-priced enough for owners of the most modest homes. These enthusiasts for furnace-duct type heating know they have real assets in the air cleaning, automatic humidification, and outside-air ventilation that their equipment can provide, but they look for further advancement. The furnace enthusiasts who

were interviewed declared that the following improvements are what they desire most from equipment manufacturers:

1. Better answers to the problems of controlling humidifiers, providing adequate yet not excessive humidification, and ending the troubles given in the past by float valves and other humidifier feed devices.

2. Simplified methods for planning duct layouts, which can be used by well trained salesmen as well as by qualified heating engineers, and which still give excellent results in unusual homes as well as typical homes.

3. Simplified duct system parts, easy to install, and easy to stock by dealers who never before stocked such parts. "I want some manufacturer to make it easy for me to stock all the sheet-metal parts I need to install about 50 heating plants a year," said one dealer. He explained, "I used to job out all my sheet-metal work, but I'm going to change that because, first, it took away all my profits; second, I'll be selling many more furnaces and heating plants. I don't mind making an investment in the parts."

4. Practical methods for providing summer air conditioning for homes already fitted with furnace-duct systems. One dealer is determined to summer air condition at least two or three of the homes he fits with new furnace-duct heating plants during the first year of postwar activities, and he wants to do business with a furnace manufacturer that can provide heating units really adaptable to genuine summer conditioning. "Some manufacturers have bluffed about this in the past," he accuses. "They showed diagrams of how their furnace units could be adapted to summer air conditioning, but their field engineers hollered 'impractical' every time we showed them a house heated by their furnace, and asked about buying the equipment that should be added to provide real summer air conditioning."

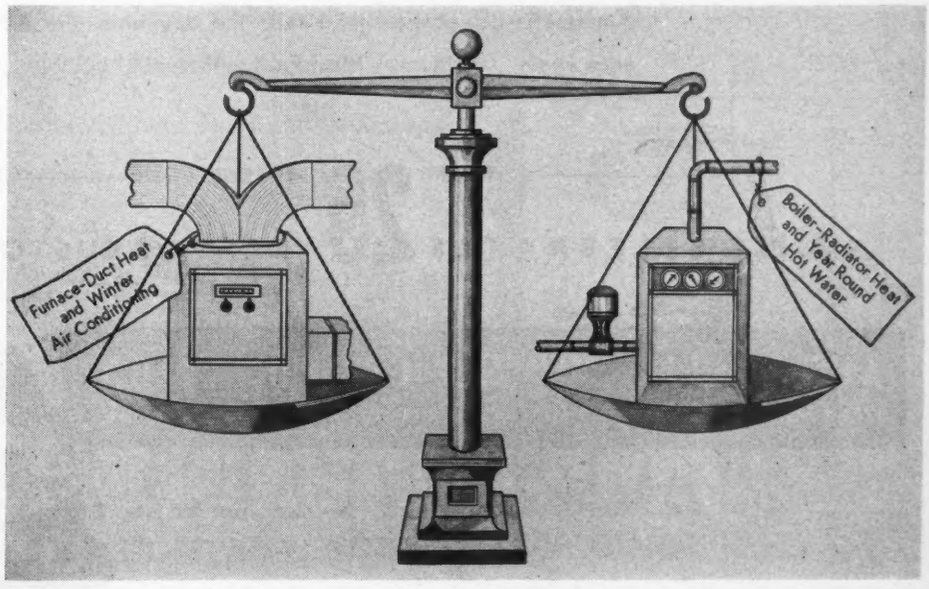
Other furnace-minded oilheating dealers indicated interest in special devices for controlling circulating blowers, in special controls, and, "in any piece of equipment which will retail at about $200 and provide increased comfort in summer for the owner of a furnace-type winter air conditioning plant." This dealer prefers that this equipment operate in conjunction with the heating plant.

Boiler-radiator enthusiasts are at the present time much taken up with the future possibilities in new types of radiation, especially the baseboard type recently announced, and with heating rooms of more pretentious homes through use of warm floor or warm wall surfaces. That applies, according to the results of this field survey, at least to the well-informed oilheating dealers, who aim to carve out big jobs in the future using technical ability as their sharp-edged tool. The same dealers show special interest in the newly developed heat control systems of the highly advanced type designed to give steady heat to rooms with intermittent firing by the oilburners. Similar interest is shown in controls for zoned heat systems. These requests for improvements in equipment and new types of equipment were outstanding among the ideas of dealers who tend to favor boiler-radiator type systems:

1. Practical units, which can be sold for less than one hundred dollars installed, are needed to provide winter air-conditioning features for at least the one or two most important rooms of the house heated by radiators, declares one dealer. The single unit installed in a six-room house, according to his ideas, may or may not be the radiator-replacement type, but it should provide for air cleaning, automatic humidification, and circulation of the air. The unit he dreams of can be installed, if desired, to breathe metered amounts of outside air into the room, thus provide planned ventilation in amounts a service man or the occupants of the house can adjust.

2. According to several dealers, improvements are needed in the tankless water heating arrangements that are part of certain boilers built for oilfiring. One dealer states emphatically he has need for a better mixing valve than he used in bygone years. This was not fully automatic, he complains, for with the water too cool it still emitted a blend of cold water and hot water, and this made it necessary to close a hand-valve in summer, or maintain the boiler at a higher temperature than would provide well-heated water with this hand-valve closed.

(*Continued on page 78*)

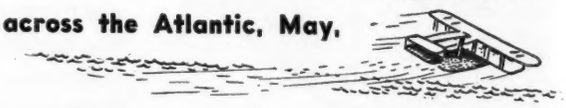


PRIDE . . . *in the Past*

DETERMINATION . . . *in the Present*

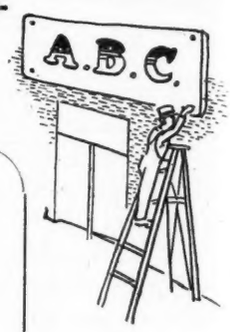
FAITH . . . *in the Future*

A Revolution in the Living Habits of the Nation—first commercial radio broadcast, Station KDKA, East Pittsburgh, 1920.



A Revolution in Transportation—flight of the "NC-4" across the Atlantic, May, 1920.

A Revolution in Heating Equipment—Automatic Burner Corporation, manufacturer of oilheating equipment, established 1920.



Since the pioneer days of 1920, when the first ABC Burner brought comfort, cleanliness and good cheer to American homes, the Automatic Burner Corporation has been a leader in the field of oil heating equipment. Specializing in the manufacture and improvement of oil burners, ABC has developed many new advantages of efficient, economical operation found in no other burner. Ruggedly built, affording luxurious comfort and trouble-free service, ABC Burners have proved their saleability in customer satisfaction. With pride in the past, determination in the present war effort, and faith in the future of America, ABC confidently awaits the day when the ABC Burner is once again "The Home's Most Faithful Servant."

1920 25 1945

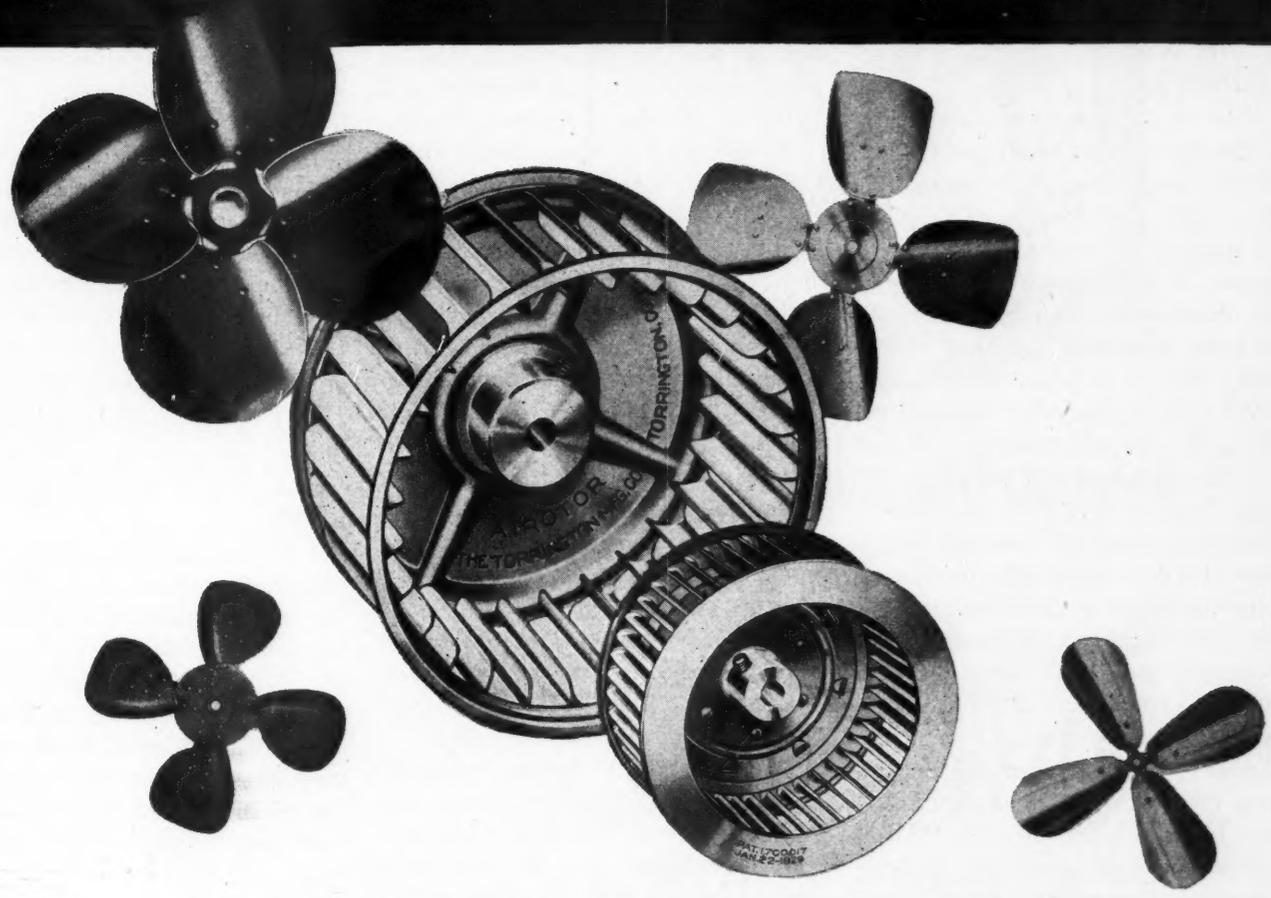
A. B. C. CELEBRATES 25 YEARS OF CUSTOMER SATISFACTION!

AUTOMATIC BURNER CORPORATION

1823 CARROLL AVENUE, CHICAGO • 1841 BROADWAY, NEW YORK

ABC Oil Burner

MATCHLESS PERFORMANCE



To secure matchless performance in any unit requiring the movement of air, it is essential to have the *correct* air impeller. Costly design changes and production delays may be avoided if you will let us help you make the choice *in the early stages of design.*

Among the great variety of propeller fan blades and centrifugal blower wheels which we make, there will be one exactly right for your application.

The many factors to be considered in selecting an air impeller are listed on our Air Impeller Specification sheet. Write for one today, then submit it for our recommendation and quotation.

AIR
IMPELLERS
for every purpose

THE TORRINGTON
MANUFACTURING COMPANY, TORRINGTON, CONN.

fueloil & oil heat

What Happens After V-E Day?

WHEN DR. ROBERT E. WILSON, chairman of Indiana Standard and chairman of PIWC's Committee on Petroleum Economics, stated at a luncheon of the Chicago Economic Club that after V-E Day gasoline for civilians would be more plentiful by 50%, he started a pretty hot controversy. He certainly made the headlines, which was not his reason for saying it, for Wilson is a retiring individual of scientific bent.

When the statement was carried by the Associated Press to all parts of the country, Washington was displeased, to say the least. The Army and Navy had been insisting for months that the end of European hostilities could not release a drop of petroleum products for civilians, that every drop was earmarked for the Pacific, and that's where it would go. PAW, adopting this party line, said the same to the rationing group at OPA and to anyone else who would listen.

But about ten days after Dr. Wilson's statement had made the headlines, Ralph Davies, PAW's deputy administrator, at a press conference in California made the same 50% statement, unknown to his Washington associates until they saw the headlines again. There were red faces. Then Ickes, not to be outdone in the scramble to make the headlines, issued a formal press release saying about the same thing. OPA and the Office of Civilian Requirements had based their planning on the original story of "no change," given them by PAW, and were somewhat nonplussed.

Then on Monday, April 16, General Sommervell, head of army supply, issued a press story saying in effect that all of the optimists were mistaken, that there could be no change in petroleum products for civilians. So what to believe?

Top flight petroleum economists at New York, those active in the world petroleum picture, say that there will be extra gasoline for civilians after V-E day, but not enough to raise civilian consumption 50% or anything like it. They expect a surplus in motor-grade gasoline of about 150,000 barrels a day, or enough to raise A-card rations by about 50%, about equivalent to a 12% rise in total civilian gasoline.

But with all this talk about more gasoline, opinion is universal that both kerosene and distillate heating oils will progressively become tighter as the Pacific war expands. Present military planning calls for so much distillate as to indicate a civilian deficit below rationed needs of some 60,000 barrels a day between October and March. There is also an important kerosene supply shrinkage, looking ahead, partly because of having to send 20,000 barrels a day to devastated Europe.

A surplus of civilian gasoline and a stringency in fuel products at the same time don't seem to mesh gears, particularly in view of the flexibility of modern refining. As a matter of fact, a considerable part of the 150,000 barrel a day gasoline surplus could be converted into kerosene and distillate heating oil by simply changing the distillation points. Kerosene was degraded a year ago to get more of it. It's just as easy to push its quality back up and bite into the gasoline surplus, and in that case the improvement of quality would coincide with increasing the quantity.

The same with No. 2 heating oil—it could be pushed up into the lower range of the present kerosene, which it could well stand, and the quantity raised.

Naturally, not all refineries could make this switch—it would interfere with war product—but the older style plants still make an important share of total petroleum products, and they could be utilized to shift this expected gasoline surplus, or a good slice of it, to kerosene and No. 2. Financially, it's hard to give up gasoline profits to make cheaper products and for that reason it may not be done, but it is physically possible.

Must Notify Customers Of Left-Over Coupons

AT THE TIME DEALERS receive from customers the new 1945-46 coupons on deposit they must notify the customer in writing if he has on deposit unused coupons from the 1944-45 season, giving the gallonage. This is the only significant provision of the new program for the coming season that was not mentioned in the April issue outline of changes planned.

One proposed minor change announced in the last issue and since dropped was the plan to omit the inventory coupons from the new sheets and have instead two rows of Period 1 coupons. The change abandoned, the sheets will now have the inventory coupons.

Four additional rationing amendments have been issued during the past month. These are, briefly:

Amendment 52

PRESENT REGULATIONS

1. An additional ration to avoid hardship may be issued for heat or heat and hot water but not for hot water alone.

2. One of the tests for determining eligibility for the additional ration is that the applicant does not have sufficient ration evidences and fueloil on hand to meet his minimum requirements for the purpose for the remaining period of his ration.

CHANGES AND REASON FOR CHANGES

1. To authorize the issuance of an additional ration for hot water (as well as for heat or heat and hot water) to avoid hardship.

2. To exclude ration evidences (or ration credits) issued for the 1945-46 heating year and fueloil obtained in exchange for such evidences from the calculation of fueloil, ration evidences or ration credits on hand with which to meet the applicant's minimum needs for the balance of the 1944-45 heating year. It is desired that consumers avoid using any part of their next year's ration to meet the current year's needs.

Amendment 53

PRESENT REGULATIONS

A ration for the operation of a commercial motor vehicle may be issued only to an applicant who has a currently valid Certificate of War Necessity for such vehicle issued by the Office of Defense Transportation.

CHANGE AND REASON FOR CHANGE

To provide for the issuance of a ration for the operation of a commercial motor vehicle for which, under General Order 21A of the Office of Defense Transportation, a Certificate of War Necessity is not required. Such ration is to be issued for the amount of fueloil needed for such operation during the three (3) month period beginning with the date on which the ration is required

Amendment 54

PRESENT REGULATIONS

Class 3 coupons are issued as rations for domestic cooking and lighting, for heat or hot water where the amount is 300 gallons or less, and for miscellaneous uses where the consumer is not required nor wishes to be in ration banking.

CHANGE AND REASON FOR CHANGE

New definite value coupons in strip form bearing consecutive serial numbers to be issued with an identification folder have been designed to take the place of the present Class 3 coupon sheets. The serial numbers printed on these coupons will afford a better means for determining where they were issued, to whom and for what purpose.

CHANGE AND REASON FOR CHANGE

This amendment also clarifies the provisions of Section 1394.5364 (a) (2) relating to rations for hot water furnished to residential premises other than a private dwelling by means of separate water heating equipment. That section was intended to provide rations for this purpose where the hot water is to be used in a single flat or apartment.

Amendment 55

PRESENT REGULATIONS

A ration for the non-occupational use of a boat is issued for a three month period and may not exceed 125 gallons.

CHANGE AND REASON FOR CHANGE

To permit the issuance of a ration to enable a person who has acquired a boat within the Continental United States from the Navy, Coast Guard or Maritime Commission to move the boat from the place of delivery directly to the place within the Continental United States where he desires it to be kept. This change was requested because the specified agencies are returning boats to their owners and are selling others. These boats must be removed from their present docks to provide needed space.

◈

Crotty Co. Inc., Appointed New York Todd Distributors

THE CROTTY CO., INC., New York, has been appointed authorized distributors for Todd Combustion Equipment Div. of Todd Shipyards Corp., to handle their commercial and industrial oilburning equipment in the counties of Manhattan, Bronx, Richmond, Nassau and Suffolk.

BLUEPRINTS FOR YOUR HOUSE *of* TOMORROW

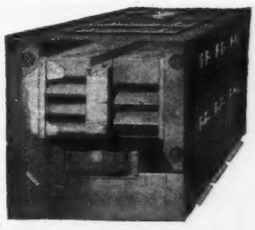
YOU MAY HAVE CHANGEABLE WALLPAPER

The combination of junior and jam will hold no terrors for post-war parents. Repapering a room will be as easy as pulling down a shade.

BUT –

Your Heating Plant will be KOVEN WATERFILM

There promises to be many wonderful improvements in the post-war period but even then there will be no heating system that can rival the economical heating satisfaction given by the KOVEN WATERFILM BOILER. This fast steaming boiler combines all the newest scientific improvements to provide quick heat, even room temperature and a plentiful supply of domestic hot water. The WATERFILM is especially built for use with oil, stoker or gas. Its patented construction and smart design, which can't be duplicated by any other boiler, makes an attractive addition to any basement room. The WATERFILM boiler is available in a variety of models...suitable for use in industrial plants, apartment houses and large or small homes. The sectional series for apartment houses or industrial plants can be taken through a two foot door thus eliminating expensive rigging and alteration costs. Call or write KOVEN for complete details.



SECTIONAL SERIES for war plant or apartment house use...can be taken through a 2 foot door.

WATERFILM BOILERS, Inc.

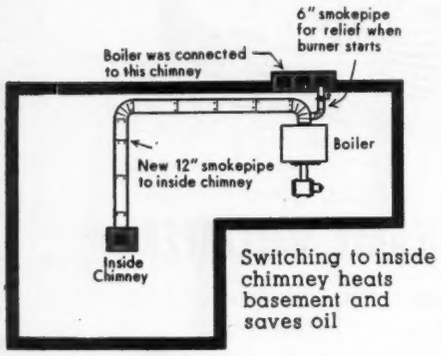
154 OGDEN AVENUE JERSEY CITY, N. J.

PLANTS: JERSEY CITY, N. J. • DOVER, N. J.

Everyday Snags

No-Cost Heat from Smokepipe

CLUTTERING UP BASEMENTS with smokepipe is not good. Stack temperatures should be low enough that little can be gained by using Boob McNutt smokepipe heat arrangements. Actually, however, the smokepipe no-cost heat system in the diagram looks attractive enough in the particular basement. It cuts the fuel bills by warming the basement and the floor over the basement, and by switching the hot gases from an outside chimney to an inside chimney. Inside chimneys are preferable, from the fuel economy aspect, because they give the houses considerable

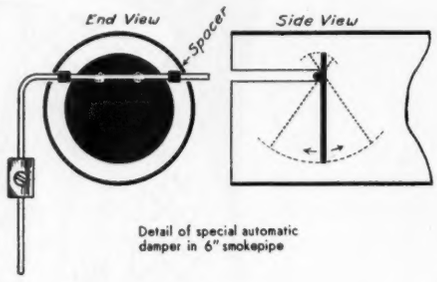

6" smokepipe for relief when burner starts
Boiler was connected to this chimney
Boiler
New 12" smokepipe to inside chimney
Inside Chimney
Switching to inside chimney heats basement and saves oil

heat that otherwise would be wasted. The heat from an inside chimney often equals that given by several large radiators.

Though designed for oil, the boiler on this installation gives a stack temperature above 700°. At first, the hot gases travelled through a short smokepipe to the outside chimney behind the boiler. The heat in them could be considered wasted. To heat the basement and switch to the inside chimney, a plan was made to install about 32 feet of 12" smokepipe as the drawing indicates. It was considered necessary to head off possibilities of starting and stopping pulsation, which can almost be expected when extra long smokepipes are hooked to boilers fired by pressure burners. Therefore the plan provided for installation of the 6" smokepipe from the boiler's smoke outlet to the nearby flue used originally.

A special automatic damper was installed in the 6" smokepipe. The damper disc normally is held in a vertical position by an adjustable weight. The disc fits the smokepipe loosely, giving a minimum opening about 25% of the pipe area. A slight tendency for gases to flow in either direction swings the damper open.

Cut from 1/8" steel plate, the disc is welded to 1/4" drill rod, bent and fitted with an adjustable weight as the diagram shows. Spacers welded on each side of



Detail of special automatic damper in 6" smokepipe

the disc keep it centered in the smokepipe. Two slots, about 3" deep, were cut into the end of a length of 6" smokepipe to permit slipping the damper in place, and the next piece of smokepipe was slipped over the slotted piece far enough to keep the damper from traveling sidewise in the slots, then held by sheet-metal screws. The damper swings very freely.

The arrangement works without oil burner starting and stopping pulsation, and in normal times, when the house is heated to about 72°, will save 300 to 400 gallons of oil a year. One improvement will be made later. Capped tee's will be installed in place of the two elbows in the 12" smokepipe to permit cleaning this without taking it down.

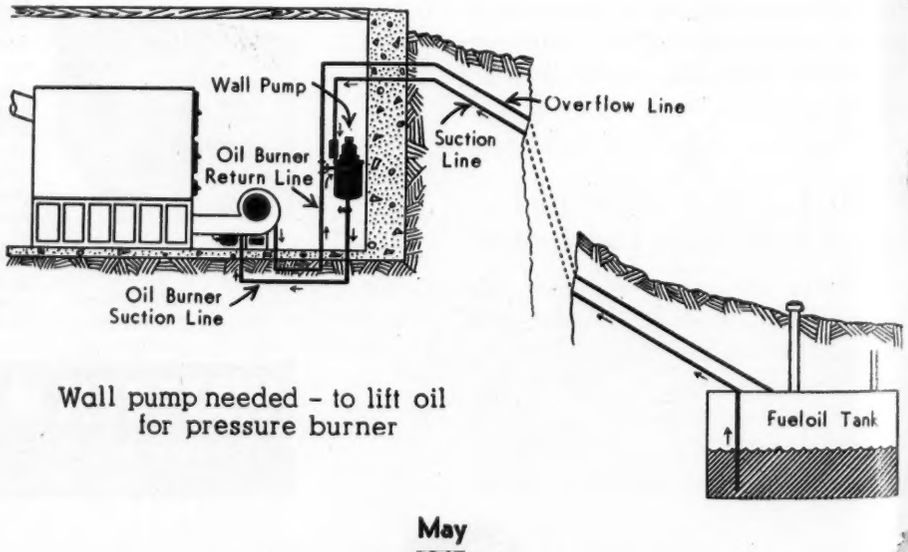
It is well to use the heaviest smokepipe obtainable, for arrangements of this kind, and to make the joints gas-tight and soot-tight by buttering them with furnace cement before assembling. It is important to make generous use of self-tapping screws to keep the joints together, and to provide shipshape supports for the smokepipe.

Pressure Burner Trouble

THIS PRESSURE BURNER had to lift fuel-oil from a buried tank located 50 ft. away and down in a terrace at the front of the house. For several years, the burner had been in and out of air-binding and lost-prime trouble caused by the high lift. The single-stage pump for which the burner was built could not quite make the grade. Trouble continued after different pumps, each carefully selected for its ability to develop a high vacuum, had been tried.

Installation of a Teesdale wall pump finally gave 100% dependable heat. The wall pump easily lifts oil from the outside tank, for it is self-priming and its pumping element does not work against any pressure. Slight suction line leaks have no effect on the pressure burner for air can separate from the fueloil in the reservoir of the wall pump. The pumping element's capacity of 30 gph allows handling its work easily despite small air leaks in the suction line.

To make the oil lift no higher than avoidable, the wall pump was placed about one foot above the burner. A "suction line" runs to the oil burner from the bottom of the wall pump. To give the burner every advantage, a return line was run to a tee at the side of the wall pump. Thus the pressure burner draws oil out of the wall pump and returns excess oil to it. From the same tee, an overflow line runs back to the oil tank. This



Wall pump needed - to lift oil for pressure burner

SIX REASONS WHY YOU SHOULD SELL

Gar Wood

HOME HEATING EQUIPMENT

THE ORIGINAL BURNER UNITS

1. ECONOMICAL

Actual surveys have proved that Gar Wood Tempered-Aire provides excellent heating performance on a less-than-average amount of fuel.

2. DEPENDABLE

Years and years of practical experience back up all Gar Wood Heating Equipment. It is engineered to assure dependable day by day performance.

3. EASY TO SERVICE

These units are engineered so that parts are accessible. The complete power unit can be readily replaced for servicing in your shop.

4. BEAUTIFULLY DESIGNED

The new postwar Tempered-Aire and Boiler Burner Units will have plenty of eye-appeal. The new cabinets will add beauty to any home.

5. NATIONALLY ADVERTISED

Gar Wood ads are scheduled regularly in consumer magazines with a combined circulation of more than 5,000,000. That's a powerful sales stimulant.

6. EASY TO SELL

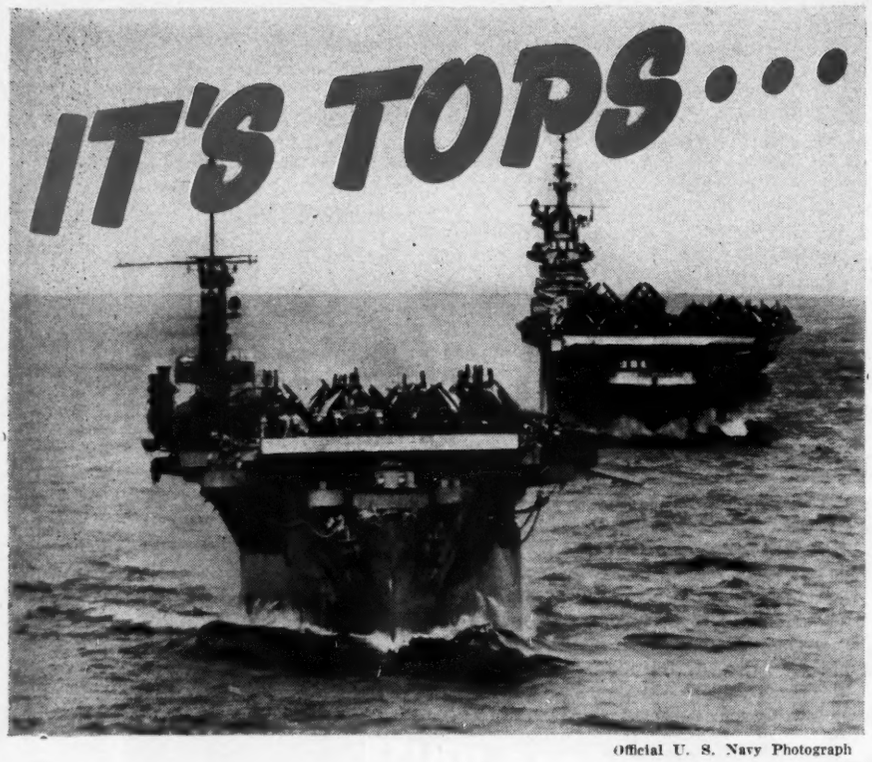
Everything you and the customer wants is embodied in this postwar line. Gar Wood Industries, Inc. will assist dealers in advertising and sales promotion.

DEALERS: Make your application now for the exclusive Gar Wood franchise in your community!

GAR WOOD INDUSTRIES, INC., HEATING DIVISION

7924 RIOPELLE STREET DETROIT 11, MICHIGAN

HOISTS and BODIES . . . WINCHES and CRANES . . . TANKS . . . ROAD MACHINERY . . . MOTOR BOATS



Official U. S. Navy Photograph

...ABOARD THE "FLAT-TOPS"!

Does the fighter-plane aloft have only five minutes of gas left? The precise amount—with no question about it—is what every pilot aboard the carrier most wants to know. That's why so many fighter-planes—and land-based bombers, too,—are equipped with Boston Auto Gage Company gages. And that's the kind of reliable service we also build into

Triumph

MAGNETIC GAGES
for Your
OIL TANKS

RED HEAD GAGES are famous for EASY VISIBILITY — from BOTH SIDES . . . INFALLIBLE ACCURACY . . . SIMPLE, DURABLE CONSTRUCTION and LEAK-PROOF for FUEL and FUMES.

The RED HEAD is available in two types—Union Type and Screw Type —for 1½ inch or 2 inch pipe size openings, and for tanks from 22 to 45 inches in depth or adaptable up to 90 inches depth.

Sold by leading dealers everywhere.

The BOSTON AUTO GAGE CO.

PITTSFIELD . . . . . MASSACHUSETTS

Makers of gages for any size or shape tank for Fuel Oil Burners, Automobiles, Trucks, Buses, Motor Boats, Stoves, Aircraft.

vents the reservoir to atmosphere and would permit excess oil to flow back to the storage tank in the remote possibility of trouble with the float switch.

◈

Sid Harvey Plans June Open House and School

EVERY WEEKDAY IN JUNE, Monday through Friday, Sid Harvey, Inc., Valley Stream, N. Y., will hold open house and be host to visiting dealers and their employees who wish to inspect the plant and receive instruction in oilburner service work. Attendance will be by appointment, in order that the classes of visitors may be of convenient size and sufficient attention can be given the individuals.

The day, as planned, will open at 10 a.m. when Sid Harvey will welcome the guests and conduct them on an inspection trip through the plant. On the inspection the guests will see equipment being rebuilt in the various stages, and can see any make of pump, control or valve undergoing renovation. This will be allowed for questions.

At 11 a.m. there will be a live demonstration of various pump and valve troubles, and an explanation of the causes. The company will be host at a cocktail and luncheon at noon.

Other live demonstrations will be held at the opening of the afternoon session at 1:30, followed by a question and answer period. Adjournment officially will be at 3 p.m., though guests may remain for informal discussion or to revisit specific departments in which they may be particularly interested.

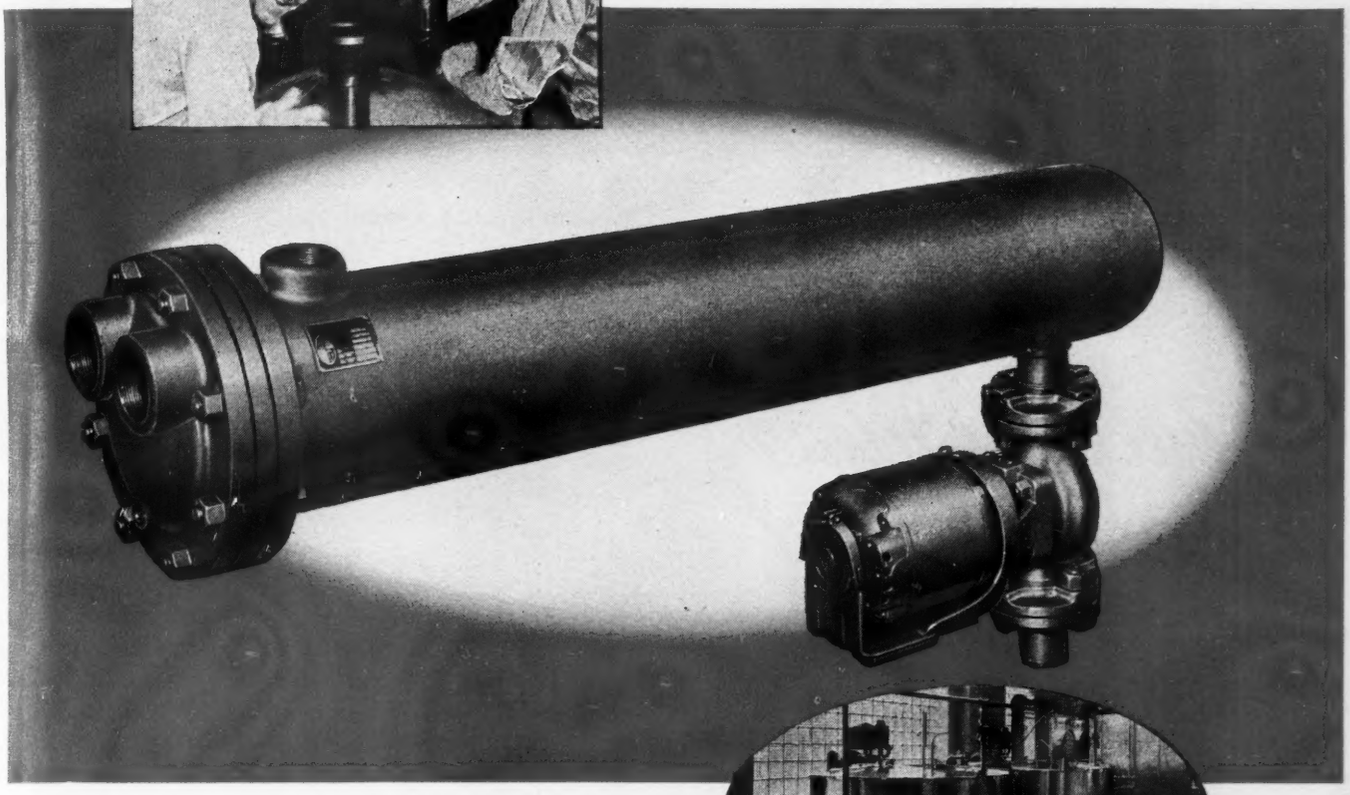
This course, according to company officials, is designed to better acquaint the old and new customers with the company's service, and to show dealers how best to utilize it in speeding service. No effort is to be made to influence sales of the service or equipment.

◈

Lt. Comdr. Milton K. Arenberg, U.S.N.R., has been released to inactive duty and has resumed his former position as President of Robert Barclay, Inc., wholesalers of automatic heating accessories at Chicago. *Commander Arenberg* served as Technical Officer at Tampa, Florida and as assistant supervisor of shipbuilding in the St. Louis area.

Never-failing hot water for wash rooms and showers.

MORE HOT WATER FROM A SMALLER HEATER



"WU" HEATER + BOOSTER = CASH SAVINGS!

Here's the buy of the year in water heaters! Here's the Heater which not only gives positive control of service water temperature but costs less to install and operate!

The "WU" Instantaneous Water Heater (water to water heat transfer) is equipped with a B & G Booster which pumps boiler water through the shell, thereby greatly increasing the capacity of the Heater. Large volumes of hot water are produced by an amazingly small unit.

Slashes material and labor cost!

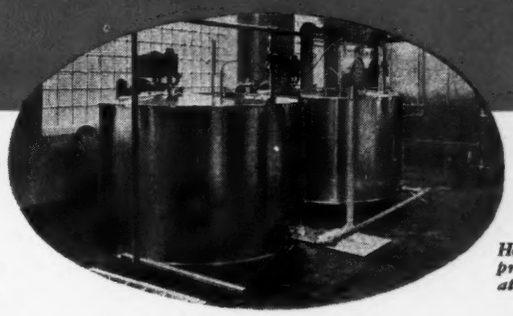
Because of pumped circulation, the connecting pipes and fittings are radically reduced in size. Hence, material cost is trimmed to the bone and cutting and threading can be done on the job. No storage tank needed—another substantial saving.

Controls service water temperature!

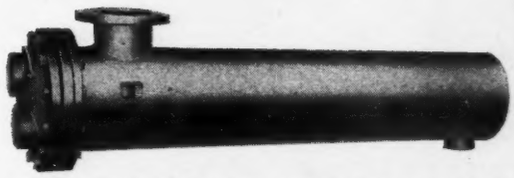
The Booster also provides a means of closely controlling service water temperature. A hot water control, installed in the hot service water supply line, starts the Booster whenever service water temperature goes below the desired degree. The Booster pumps boiler water through the shell of the Heater *until service water is again at the correct temperature,* and is then stopped by the control.

All for less money!

The combined cost of the "WU" Heater, Booster, pipe, fittings and labor is actually less than for a gravity-circulated heater installation big enough to do the same job. Write for price and capacity data.



Hot water for process uses at low cost.



B & G TYPE "SU" INSTANTANEOUS WATER HEATER

For heating water with steam (steam in shell, water in tubes). Wide range of capacities in 2 and 4 pass units.

SEND FOR THESE CATALOGS

B&G WATER HEATERS

BELL & GOSSETT CO.
MORTON GROVE, ILL.

fuel oil & oil heat

Industry Meetings

Activities of local and national industry associations will be reported monthly in this department. Secretaries are invited to send reports of their group's activities, to reach the editor by the 20th.

Accessory Division, Oil-Heat Institute of America

THE ANNUAL MEETING of the Accessory Div. of Oil-Heat Institute of America was held by proxy May 1 at Rockford, Ill., according to an announcement by J. W. Owens, secretary. The proxy-by-mail procedure was in accordance with the request of ODT that travel to such meetings be eliminated.

A nominating committee composed of R. F. Fisher, chairman, and T. W. Murphy and R. A. Bell recommended the election of the following officers and directors to represent the Division on the Institute's board: W. A. Kemp, chairman, M. E. Henning, vice-chairman, and J. W. Owens, secretary; directors to be P. K. Addams, Alexis Doster, M. E. Henning, W. A. Kemp, C. E. Lewis, S. A. Loeb and J. W. Owens.

The nominating Committee also recommended that the present Planning Committee be discontinued and be replaced by an Executive Committee to comprise past and present officers of the Accessory Div. and others who are serving as Directors of OHI from the accessory group. The new committee would include Addams, Doster, Henning, Kemp, Lewis, Loeb, Owens and V. K. Smith.

OHI of New England

AT ITS ANNUAL MEETING, held by proxy on April 18 at Boston, the Oil-Heat Institute of New England elected Edward P. Hacker of Portland, Me., as president, Francis Gilbane of Pawtucket, R. I., first vice-president, Russel F. Swett of Springfield, Mass., second vice-president, Fred N. Beckwith of Boston, secretary-treasurer, and A. W. Barr of Boston as representative of associate members.

The Executive Committee appointed is Francis Gilbane, chairman, Joseph F. Walsh and Ivan C. Sutherland.

Don P. Hobbs of Malden, Mass. was elected a director for a two year term. Elected director for three year terms were Donald G. Clark, Worcester, Mass., Harold W. Loveren, Dover, N. H., Robert T. Platka, Burlington, Vt., Thomas J. Reagan, New Bedford, Mass., and Ivan C. Sutherland, Lynn, Mass.

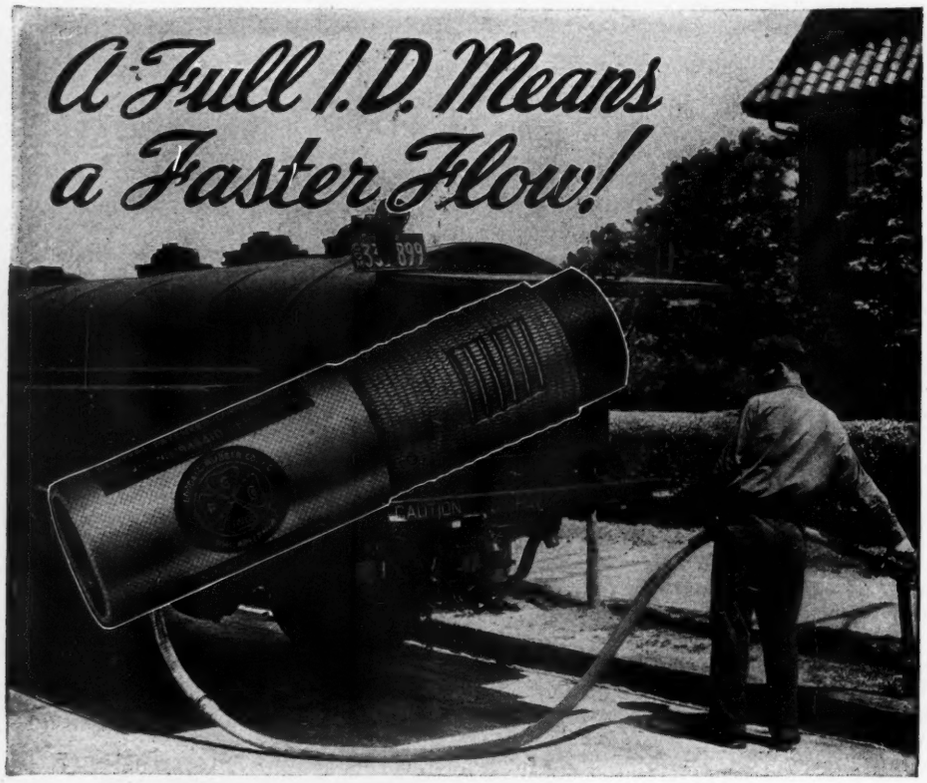
The members also voted to increase the dues payment to Oil-Heat Institute of America to five dollars per member.

New York Oil Heating Ass'n.

AT ITS APRIL 2 MEETING at New York's Hotel Pennsylvania, the New York Oil Heating Assn. had as principal speakers Carlton A. Lunsford, head of the Industry Relations Section of OPA's Fuel Oil Rationing Branch, Washington, and Clyde G. Morrill, executive secretary of the Atlantic Coast Oil Conference. Lunsford explained details of the new rationing program and Morrill discussed probabilities in the oil supply outlook. After the talks an open forum period brought numerous questions for the speakers to answer.

Mass. Oil Heating Association

THE REGULAR MONTHLY MEETING of the Mass. Oil Heating Assn. was held at Boston's Fox & Hounds Club April 17. Prin-



"NEWTYPE CORD" Fuel Oil Hose

Kinkproof, Non-Flattening Construction

Fuel oil deliveries are quicker . . . *and more profitable* . . . with trucks equipped with "Newtype Cord." Patented reinforced construction, incorporating an oilproof "Synplastic" tube, assures a maximum inside diameter under all conditions. Result . . . faster flow; less time for each delivery; *more* deliveries per truck per day. Light weight, flexible, easy to handle. Available in all standard sizes and required lengths. *Contact our nearest branch or main office for details.*

GOODALL RUBBER CO., Inc.

THE GOODALL-WHITEHEAD COMPANIES

Philadelphia - Trenton - New York - Chicago - Pittsburgh
Boston

Goodall Rubber Co. of Calif. Goodall Rubber Co. of Texas

Factory—Trenton, N. J. Established 1870

Do You Want Leadership in Oil Heating Sales?

4 Pressure Burners
Firing rates from 7/10 to 12 gallons per hour
6 Vertical Rotary Burners
Firing rates from 7/10 to 6 gallons per hour
8 Air Conditioning Furnaces
From 70,000 to 200,000 BTU per hour
7 Boiler Burner Units
Capacities from 475 to 840 sq. ft. of standing hot water
40 Gal. Hot Water Heater
Sells on appearance —delights users by performance

Here's why you should sign up as a Fluid Heat Dealer NOW

Are you aiming for the top in oil heating sales? Then Fluid Heat has what it takes to help you get there . . . and the completeness of the Fluid Heat line is only part of the story. Here's more:

1 As a Fluid Heat Dealer, you'll have real consumer acceptance . . . a trademark with a reputation that dates from the beginning of the oil heating industry . . . backed by a nationally known manufacturer whose products have given satisfaction to home owners for more than half a century.

2 You'll have behind you a company which has built its oil heating business by helping dealers build theirs. Fluid heat believes in working with dealers as partners in a cooperative, progress-minded effort.

3 You'll have the assistance of an active Field Force . . . of experienced Fluid Heat men who can help you on any problem of oil heating installation, operation, service or sales.

4 You'll sell equipment that is soundly designed and ruggedly built . . . to reduce service problems to a minimum and build sales through customer satisfaction. Many Fluid Heat Burners are still on the job after 17 to 20 years of use.

5 To keep you out in front product-wise, you'll have working for you one of the largest Development Laboratories in the industry . . . from which have come many sales-building Fluid Heat features. More will come from Fluid Heat's successful development of efficient combustion and heat transfer equipment for the Armed Forces.

Fluid Heat is ready to work with you . . . so you'll be all set to profit by the huge postwar market for oil heat. Check the completeness of the Fluid Heat line at the left. Then get complete facts about a Fluid Heat Franchise. No cost. No obligation. Write today to: Fluid Heat Division, Anchor Post Fence Co., 6700 Eastern Ave., Baltimore 24, Maryland.

fluid heat
PRODUCTS

"World's Economy Champion"

A PRODUCT OF THE ANCHOR POST FENCE COMPANY, BALTIMORE, MD., ESTABLISHED 1892

fuel oil & oil heat

cipal speaker was F. D. Wennberg, New England manager of the Personalized Heating Control Dep't. of Minneapolis-Honeywell, who outlined his Company's development of improved heating controls for postwar.

Wisconsin Oil-Heat Association

THE DIRECTORS of the Wisconsin Oil-Heat Assn., Milwaukee, recently engaged Arthur Spence to represent the association in the current natural gas fight. He was the principal speaker at the monthly meetings held March 29 and April 26, at which time he outlined latest developments of the current campaign by the Association to keep natural gas out of the state. Two pieces of literature have been printed by the association and widely circulated, explaining why the present manufactured gas set-up is better for consumers than natural gas.

Indoor Climate Institute

MORE THAN SIXTY heating men attended an organization meeting in the auditorium of the Hartford Gas Co., Hartford, Conn. on March 13 to discuss plans for forming a local chapter of Indoor Climate Institute. Edward C. Marsden, local wholesale heating equipment dealer, acted as chairman and introduced John K. Knighton of Servel, Inc., Evansville, Ind., who explained the nature and purpose of the Institute. An organization committee was appointed to report at a meeting to be held during April.

Paul B. Zimmerman, president of ICI, addressed an April 13 meeting of the Electrical Assn. of Detroit and three Detroit heating associations, explaining the program and work of the Institute.

Heating, Piping and Aircond. Contractors National Association

THE HEATING, PIPING and Air Conditioning Contractors National Association has just published Parts III and V of the Fourth Edition of its Engineering Standards.

Part III on Pipe Sizes and Design is a 36 page booklet devoted to the sizing of pipes for steam heating and vapor systems, for gravity hot water heating systems, and for mechanically circulated hot water heating systems. In addition to the tables giving the necessary data for sizing pipe there are ten pages of plates showing piping details, typical layouts for the piping of heating systems and proper hook-ups for Unit Heaters. These plates were developed in cooperation with the Unit Heater Manufacturers Association. On one of the unit heaters a table is given for the ratings of low pressure float and thermostatic traps which is a standard adopted by the Steam Heating Equipment Manufacturers Association.

Part V containing Graphical Symbols for Use on Drawings and Scheme for the Identification of Piping Systems is material developed under the procedure of the American Standards Association. In the section on Graphical Symbols the symbols used on drawings for piping systems, heating and ventilating systems, ductwork, and refrigerating systems are included. The Identification of Piping Systems gives the scheme for identification by color and by legend and also the classification of materials.

◈

Ludwig Caminita, Jr., Arlington, Va. has been appointed director of public relations for the PAW, succeeding *Spencer W. Robinson* of Houston, Texas.

Action TODAY . . . MEANS Profit TOMORROW

ALL over America, home owners have enjoyed the smooth, economical operation of Herco oil burners during this war period. New thousands will be anxious to own Hercos as soon as production begins again.

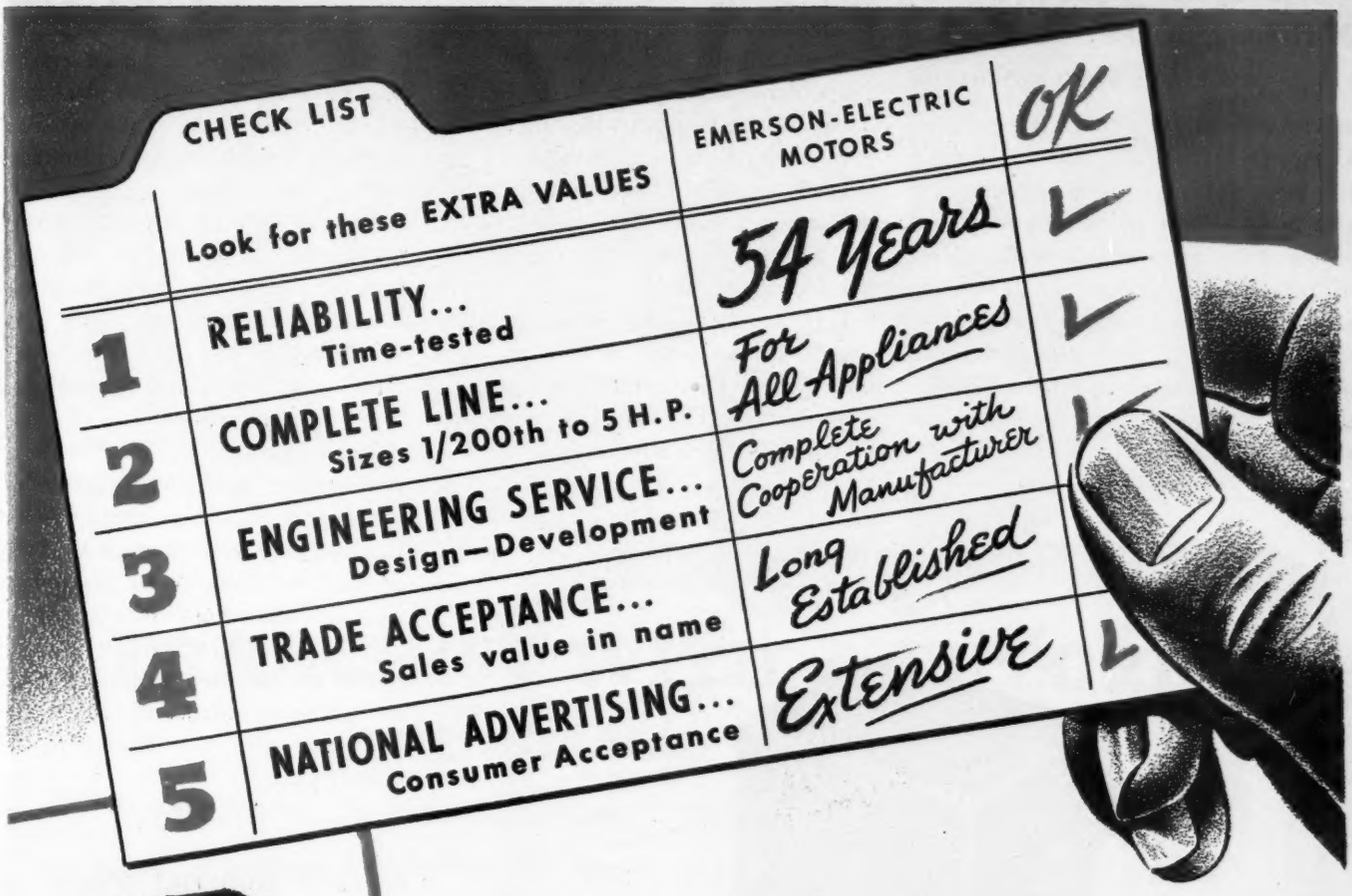
Have you assured yourself of a post-war supply, adequate to meet their demands?

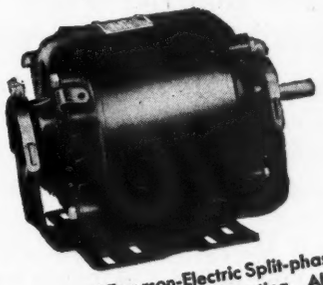
If not, write today and ask about the Herco dealer protection plan which gives you sales rights in your territory and assures you of your full share of the new, improved Herco products which will be manufactured as soon as production for war is no longer necessary. Your inquiry involves no obligation.

HERCO OIL BURNER CORPORATION LANCASTER, PA.

Service in Wartime Sales in Peacetime

HERCO
The Oil-Thrifty
OIL BURNER





Standard Emerson-Electric Split-phase Motor with resilient mounting. Also supplied with rigid mounting.

Thirty-seven years ago, 1908. A new day in home heating. An Emerson-Electric motor-driven blower is attached to a warm air furnace.

How to find extra values in ELECTRIC MOTORS

Many motors look alike, but there the similarity ends! The real difference is in the *extra values* that are so vital to the reputation of your product.

Tabulated above are five highly important background values to consider. It will pay you well to investigate them carefully—because, no matter how good your product may be, it is finally no better than the motor that drives it.

RELIABILITY—Time-tested . . . An important factor is this 54-year time-tested reputation for building motors for virtually all types of domestic and commercial appliances.

INVESTIGATE *the extra values* back of Emerson-Electric Motors. Give your products this extra *sales* value.

THE EMERSON ELECTRIC MANUFACTURING CO. • ST. LOUIS 3, MO.

Branches: New York • Chicago • Detroit • Los Angeles • Davenport

2

EMERSON ELECTRIC

MOTORS · FANS — APPLIANCES

fuelsoil oil heat

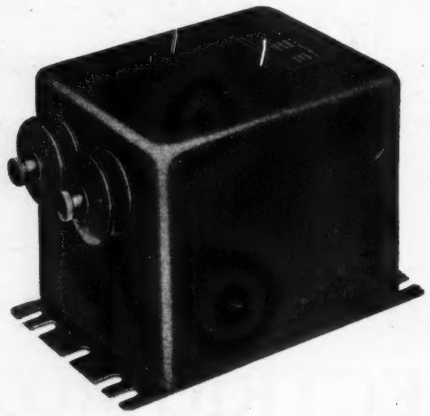
M-H Inaugurates Series Of Control Schools

MINNEAPOLIS-HONEYWELL Regulator Company has just announced plans for the most ambitious course of education ever undertaken in the heating field, consisting of a series of schools in all sections of the country to be held simultaneously and continuously. It is the prime purpose of the program to teach the application of automatic controls and their installation and maintenance in connection with all types of heating systems using all fuels.

Schools will be open to anybody who wishes to attend—including employees of competitors, according to C. B. Sweatt, vice-president. Courses will start May 1, and will be held in all sections of the country where M-H branches are maintained. The courses will be repeated whenever a sufficient number of people indicate a desire to enroll.

Text for the schools consist of more than 800 slides, many of them in color, while simple but complete lectures fills in the details. The complete course extends for four 2½ hour meetings, and is given without charge or obligation. Information to be covered has been divided into nineteen subjects with plans to cover several phases at each meeting. Subjects to be discussed are: control identification, circuits, thermostats, thermostat installation, limit controls, relays, controls for oilburners, summer-winter systems, oilburner systems, gas burner control systems, stoker systems, hand-fired systems, unit heater systems, zone controls, Weatherstat systems, Moduflow, and installation helps and service tips.

The course, entitled "Heat in Harness," is a result of considerable experience the company has had in training 3,000 service men who have gone through M-H schools to learn the operation of electronic control equipment built for war uses. It is hoped that it may serve as a refresher course for experienced heating men, as well as initial instruction for numbers of new men who may have entered the industry.



NOW AVAILABLE FOR REPLACEMENTS

We can now make immediate shipment of Dongan Ignition Transformers for repair and replacement purposes. Write us concerning your requirements.

DONGAN ELECTRIC MFG. CO.

2981 Franklin Detroit 7, Mich.

The Dongan Line Since Nineteen-Nine

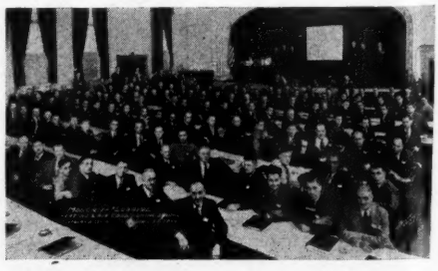
WRITE FOR LITERATURE

DONGAN TRANSFORMERS

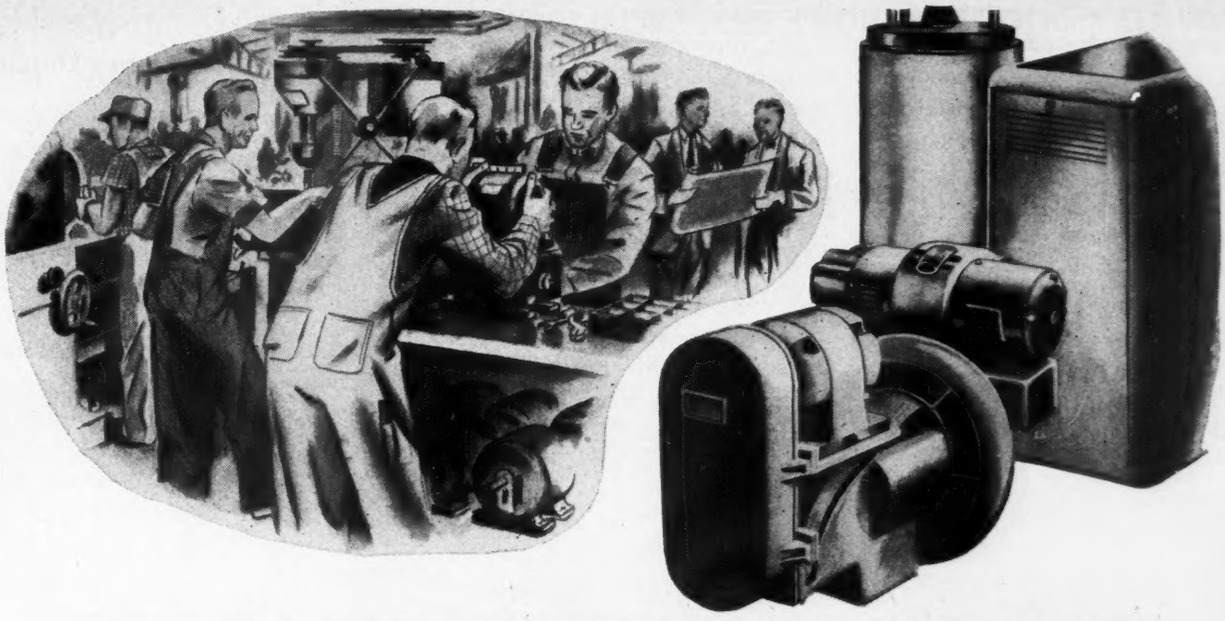
Luxaire-Moncrief School Has 165 Dealer Attendance

LUXAIRE-MONCRIEF Heating and Air Conditioning School, sponsored by the C. A. Olsen Mfg. Co., Elyria, and The Henry Furnace Co., Medina, Ohio, was formally opened at Cleveland on April 3, by Edward P. Hayes, vice-president. Approximately 165 jobbers and dealers from the Greater Cleveland area enrolled in the school.

In his opening address, Mr. Hayes stressed that today, the heating industry should sell comfort in home heating rather than merely furnaces, pipes and grilles.



Technical sessions were conducted by Clarence L. Grandstaff, a member of the Luxaire Engineering staff. With the aid of house plans and the newly developed engineering and educational literature of National Warm Air Heating and Air Conditioning Association, he instructed the group on modern methods, in figur-



FRANCHISE WITH A FUTURE

for Enterprise Dealers

Now is the time to consider a valuable Enterprise Dealership . . . the franchise with a bright postwar future. Long a leader in the combustion field, Enterprise will be ready with the world's most complete line of Oil and Gas Burners. As modern as tomorrow, no wartime models included, the Enterprise line will fulfill the highest expectations of a quality-conscious postwar market.

Enterprise Dealers are backed by a sound company with a 60 year record of faithful dependable service. Count on the complete Enterprise line of tried and proven combustion equipment, supported by consistent advertising and worldwide acceptance, to capture a generous share of profitable postwar sales.

METER MASTER

ENTERPRISE COMBUSTION EQUIPMENT

Division of ENTERPRISE ENGINE & FOUNDRY CO.

18th AND FLORIDA STS. Enterprise OIL & GAS BURNERS SAN FRANCISCO, CALIF.

ing and installing both gravity warm air heating and air conditioning systems. The question and answer periods following the insruction showed that valuable information was obtained by the group.

W. T. Clark, manager of the Residential Division of The Cleveland Electric Illuminating Company, talked on what the home owner of tomorrow is going to demand in heating equipment, and the large potential heating market which the greater Cleveland area offers.

Mr. Hayes states that it is planned to hold additional schools in other parts of the country as soon as conditions permit.

The three-day session closed with a banquet after which the group was addressed by President C. A. Olsen, who enthusiastically outlined and summed up the postwar plans of the Luxaire and Moncrief organizations.

◈

Thomas A. Button has joined the executive staff of Gerotor May Corporation, Baltimore, Md. *Mr. Button* was formerly resident manager at the Scott & Williamson Plant, Laconia, N. H.

General Electric Establishes Air Conditioning Department

HEATING AND AIR CONDITIONING activities of the General Electric Company have been removed from the company's Appliance and Merchandise Department and established as one of six major operating departments. The new Air Conditioning Department will have its headquarters at Bloomfield, N. J., and George R. Prout has been designated as general manager, according to C. E. Wilson, president. Besides heating and air conditioning, the department also will handle commercial refrigeration. Air conditioning for rail transportation will remain a responsibility of the transportation divisions.

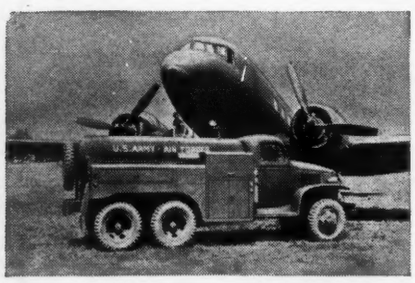
Mr. Prout, a graduate of Mass. Inst. of Technology, joined General Electric in 1920, and became manager of the heating and air conditioning activities in 1944 after three years as manager of the industrial controls division at Schenectady.

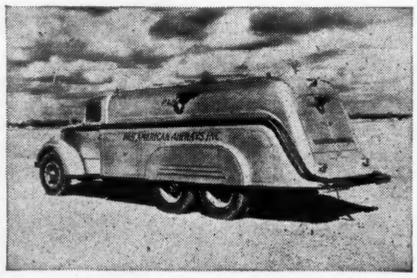
◈

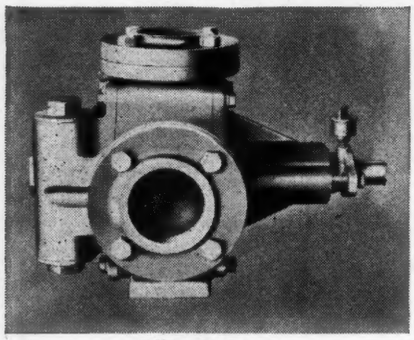
WPB Limits Ratings Allowable Under PR-25

WAR PRODUCTION BOARD has called special attention to the fact that Priorities Regulation No. 25, as amended February 21, 1945, provides that no other ratings or allotment symbols may be used to get production materials for a spot authorization schedule than the ones assigned to it, unless a rating or symbol is specifically assigned by WPB for a particular material or product to be used in the schedule.

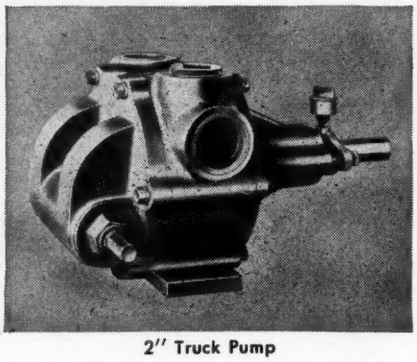
Furthermore, WPB officials said, this provision prohibits the use of the small order (SO) allotment symbol in obtaining materials for use on a spot authorization. Similarly, it was said manufacturers of Class A products who receive orders identified by the Z-1 allotment symbol used in connection with spot authorizations may not treat them as small orders under the provisions of Controlled Materials Plan Regulation No. 1, unless their customers make allotments to cover such orders.







3" Truck Pump



2" Truck Pump

GASOLINE TRANSFER PUMPS

for

REFUELERS OR TRANSPORTS

Yale & Towne TRI-ROTOR Pumps are being used to refuel transport planes all over the world. These pumps are now available to the petroleum industry for commercial use. AA-5 priority is required, highest rating given preference.

TRI-ROTOR Truck Pumps, as illustrated above, are the only modern low pressure pumps that have the high volumetric efficiency of a rotary pump plus the positive handling characteristics of a piston pump. They operate without overheating, chewing, foaming, or agitating the product. Sizes, 5GPM — 200GPM.

Only 3 moving parts assure — minimum maintenance — low operating cost.

Three head styles—Solid, By-pass and Variable Volume Head—cover all types of truck pump installations.

Please wire or mail your requirements to Pump Division, The Yale & Towne Manufacturing Company, 213 Henry St., Stamford, Connecticut. *Representatives in major cities.*

TRADE YALE MARK

MAKERS OF THE FAMOUS YALE LINES OF LOCKS, HARDWARE, HOISTS AND INDUSTRIAL TRUCKS

MORE FORD TRUCKS ON THE ROAD • ON MORE JOBS • FOR MORE GOOD REASONS

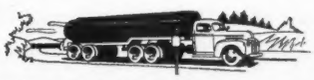
"Ideal for Home Oil Delivery"

—says R. W. FISK, *Plant Supt., Sherwood Brothers, Inc.*
Baltimore, Md.

"This is one of many trucks of this size and type we use for delivery of domestic light fuel oil. Carrying a 1200-gallon tank, with pump, reel, meter and ticket printer, these trucks are ideal for delivery to homes. Their flexibility meets our needs in the city, where most alleys are narrow, and in the suburbs, where many driveways cannot sustain heavy vehicles. The low cost of operation has been a source of satisfaction."

Sherwood Brothers, Incorporated
Washington Oil Heating Division
R. W. FISK, Plant Superintendent

TO GET YOUR LOADS from where they are to where you want them, for the least money, with the utmost sureness and promptness, is the main reason why you buy trucks, isn't it?



That's the basis of Ford Truck engineering. There's a proper Ford Truck for 95 per cent of all hauling jobs. Whether your hauling consists of city deliveries or long inter-city transport, one of the 126 Ford Truck combinations is practically sure to fit your needs. It will have the right kind of power, giving you ample engine torque over a wide range of road speeds. It will have a massive and sturdy chassis—a chassis that is *truck-engineered* for your loads and roads.

It will have what's needed for economical operation and maintenance. It's because of Ford Truck engineering, that more truck operators use Ford Trucks than those of any other make.

Under government allocation, present production of Ford Trucks is necessarily limited as to types, equipment and quantities, for essential civilian needs. See your near-by Ford Truck dealer for friendly counsel in obtaining official certification of your requirements.

Ford

TRUE *TRUCK* ENGINEERING

Powerful truck engines—Six chassis types—for 95% of all hauling jobs.

FAMOUS FORD FEATURES

- Service ease . . . engine crankcase, transmission, clutch and other chassis units readily accessible, hence—
- Low maintenance cost.
- Universal service facilities.
- Heavy-duty front axle—massive spindles—large taper roller wheel bearings.
- Extra-sturdy full-floating rear axle—pinion straddle-mounted on 3 large roller bearings—3 axle ratios available—2-speed axle optional at extra cost.
- Powerful hydraulic brakes—exceptionally large cast drums.
- Needle bearing universal joints.
- Rugged 4-speed transmission—large roller bearings.
- Shifto-Guide speedometer dial—saves fuel—saves wear.
- All-steel comfort cab—safety glass.

FORD TRUCKS

AND COMMERCIAL CARS

TRUCK-ENGINEERED • TRUCK-BUILT • BY TRUCK MEN

fueloil & oil heat

National Radiator Wins Maritime Gold Star

IN RECOGNITION OF CONTINUED production achievement, Admiral H. L. Vickery, Commissioner of the United States Maritime Commission, and Chairman of its Board of Awards, advised The National Radiator Company that it had been awarded another Gold Star to be added to each of the "M" pennants now flying over the Company's Equipment Plant and General Office in Johnstown, and Lebanon and New Castle Plants, it was announced today by Robert S. Waters, President.

In addition to receiving another Gold Star for the "M" pennant, all employees added to the Company rolls since August 4, 1944 will receive badges of production merit.

I-B-R Schools On Guide No. 1

INSTITUTE OF BOILER & RADIATOR Manufacturers is sponsoring a series of regional meetings for the sales personnel of member companies to acquaint them with "I-B-R Installation Guide No. 1" which is a code covering the planning and installation of one-pipe forced hot water heating systems. Meetings have been held at Northeastern University, Boston; Johns Hopkins University, Baltimore; New York University, New York; Northwestern University, Evanston, Ill.; and Case School of Applied Science, Cleveland.

Meetings, conducted by H. F. Randolph, chairman of the Engineering Committee of the Institute, and R. E. Ferry, general manager, provided an opportunity for manufacturers' sales representatives to review the Guide in detail and, under guidance, to calculate the systems for two different houses. Average attendance at the meetings was 40.

I-B-R hopes to have two additional guides issued this year, and to arrange for a series of regional meetings sufficiently large in scope to invite members of the trade for a review of them.

Ask More Smoke Pipe Steel

AN ESTIMATED 100,000 TONS of stove and furnace smoke pipe will be needed in 1945 to meet minimum essential requirements, the task committee of the Stove and Furnace Smoke Pipe Industry Advisory Committee reported at the full committee's recent meeting.

The committee recommended allotment of a total of 60,000 tons of carbon steel for the second half of 1945, and said that if any additional steel is available, the industry will be able to use up to 50,000 tons of steel per quarter with little if any increase in manpower.

Jobbers' inventories are now less than one-third of normal for this time of year. An average of 119 per cent of 1944 shipments will be needed by jobbers in 1945 to take care of minimum requirements.

General Has New Plant

A NEW OILBURNER FACTORY covering 40,000 sq. ft., has been completed by General Oil Burner Co., Baltimore, and now is under lease to Glenn L. Martin. The company will occupy the new factory and office space as soon as it is returned from war work, and will manufacture a complete line of oilburner and units for national distribution.

Render Service that Promotes Good Will

Success is based on quick, easy sales of products or services that perform and promote good will. SILOO FUEL OIL TANK SOLVENT does all this *and more*. It cuts down those costly free service calls that cause so many profit leaks.

SILOO FUEL OIL TANK SOLVENT overcomes the everyday problems common to proper combustion and storage of fuel oils, without affecting the characteristics of any fuel.

It is a safe antidote for clogged pipe lines, oil strainers, oil filters, burners.

It assures trouble-free heater, boiler, turbine and engine operation.

It is non-explosive, non-inflammable, non-corrosive and non-toxic.

It dissolves sludge accumulation in tank and fuel system.

It will remove polymerized gums and act as an inhibitor against electrolysis.

It is a product of fifteen years standing.

It is nationally advertised in twenty magazines.

Get the SILOO story today!

PETROLEUM SOLVENTS CORPORATION

Solvents for all types of petroleum residues

331 Madison Avenue, New York 17, N. Y.

PEACETIME PROFITS ...with RUUD-MONEL

Before the war, many dealers sold Ruud Automatic Water Heaters with Monel Tanks.

During the last few years, they've had a chance to observe Ruud-Monel performance in customers' homes.

Those dealers know that when restrictions are eased, tremendous public acceptance will follow the great national performance record made by Ruud-Monel. You can bet they'll sell *that* combination again!

There'll be new designs and new features to offer. The water heater itself will be of Ruud's unquestioned quality; the tank of *solid,* tough, long-life Monel. And the hot water service will be perfect: clean, *rust-free* and enough to supply washing machines, dish-washers and garbage disposal units... enough to meet *all* cooking, bathing and cleaning needs.

A RUUD-MONEL Dealer
in every gas-served community

That's the Ruud-Monel peacetime merchandising plan... and a few spots are still open. Your community may be one in which a dealer has not yet been appointed. For further details, mail the coupon at the right.

RUUD MANUFACTURING COMPANY, PITTSBURGH 1, PA.

RUUD
GAS
MONEL ... perfect partners for
Automatic Hot Water Service

fuel oil & oil heat

H_2OT STUFF

★ Seabee Herman A. Teague of Beverly Hills, Cal., took a Monel fishline to the South Pacific ... but he didn't catch any fish with it.

When his comrades began losing identification tags because metal wires corroded and broke, Herman knew the ideal solution. He cut his line into short lengths, passed them around. Tags are safe now, for Monel is rustproof and highly resistant to corrosion... even in the tropics. The tags, incidentally, are themselves made of Monel.

★ The first Ruud Automatic Gas Water Heater was built in 1889. Today, Ruud equipment serves throughout the world... in homes and in commercial and industrial buildings... wherever hot water is needed.

★ Because Monel combines strength, toughness and corrosion resistance, this well-known metal finds many war uses. Vital parts of ships, submarines, guns and planes are made of Monel. After victory, Monel will again join with Ruud to provide the finest automatic hot water equipment you ever sold.

Read... fill in... MAIL THIS COUPON TODAY

RUUD MANUFACTURNG COMPANY
Pittsburgh 1, Pa.

I am interested in the Ruud-Monel dealership in my community. Please send full details without obligation.

Name.....

Company.....

Address.....

F. O. & F. O. H. 5—45

City.....*Zone*.....*State*.....

Will Study Pipelines

A SPECIAL PIPELINE STUDY COMMITTEE of the American Petroleum Institute was appointed April 13, by President William R. Boyd, Jr. The Committee, Mr. Boyd said, will engage in a factual study and analysis of pipeline transportation problems, reporting the results and whatever recommendations it may deem proper, to the Executive Committee of API.

Available reports on pipeline transportation issued by various agencies, such as the Interstate Commerce Commission and the Association of American Railroads, will be assembled and studied.

◈

Viking Air Conditioning Enlarges Plant Facilities

THE VIKING AIR CONDITIONING Corp. of Cleveland recently enlarged its plant facilities by adding another floor to its building and occupying an adjacent building.

The new building houses new and heavy presses for the manufacturing of invasion pipe clamps for the Armed Forces. These giant presses will be convertible to post-war operations in the manufacturing of blowers, humidifiers, attic and industrial fans.

Much of the plant equipment, now used exclusively for war work, will be arranged to permit automatic assembly-line production when conditions again return to normal. The entire Viking post-war production method will be a new departure from the old method of manufacturing air conditioning equipment.

◈

Pressure Gauge Makers Hampered by Short Metals

DIAL PRESSURE GAUGE manufacturers had a backlog of unfilled orders at the end of February equivalent to 3½ months production at the February rate, according to the Advisory Committee's report to WPB, with no reduction in demand in sight before the end of the war in Europe. This conditioin is exclusive of aircraft gauges.

Shortage of materials and of experienced personnel were reported to be hampering production. An official of the Copper Division reported that copper-brass alloys could not be released at this time for gauge cases, and the recommendation was made that more nickel and chromium be made available for plating.

◈

C. E. Mason has been appointed technical director of the Bristol Company, Waterbury, Conn., manufacturers of automatic control and recording instruments. *Mr. Mason* has made a large number of pioneering contributions through invention and research to the advancement of industrial automatic control design and engineering. In 1940 he received from the National Association of Manufacturers' Committee on Patent and Research, a special award as one of the country's modern pioneers for his accomplishments in the field of automatic control.

"Plenty of glamour . . . . but can she cook?"

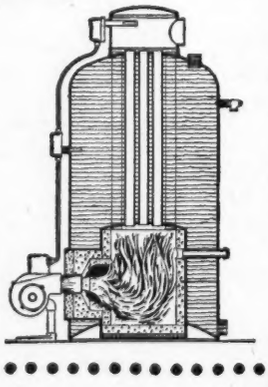
Questions like that ought to be answered before it's too late . . . whether it's a wife or a dealership you're thinking about.

Glamour wears off just as fast in a dealer-manufacturer partnership as it does in matrimony. After the honeymoon of rosy prophesies is over, you'll find that the real test is a matter of integrity and known performance.

If you are planning to sell heating equipment, we suggest that you check up on the background of Johnson Oil Burners. It isn't just an accident that 75% of the Johnson Burner dealerships we have established in the past 42 years are still active . . . still mutually profitable . . . still mutually cordial.

That simple fact speaks volumes for the quality of our burners and for the way we have always lived up to the spirit as well as the letter of our agreements.

There may be a Johnson dealership open in your territory. We'll gladly tell you.



AQULUX WATER HEATERS
are famous for their economy and their enduring efficiency! There's a size for every job.

Johnson Oil Burners

Builders of fine Oil Burner Equipment since 1903

S. T. JOHNSON CO.
940 Arlington Ave., Oakland 8, Calif.
401 No. Broad St., Philadelphia 8, Pa.

MONARCH BURNER

Accessories

NOZZLES: Production is at the highest rate in our history, but quantity orders, even with AA-1 ratings, must be placed well in advance of required delivery dates. *Emergency orders for one or two nozzles are being shipped immediately regardless of how low a priority is applied.*

AIR CONES & STABILIZERS: Quantity orders can only be accepted with AA-1 ratings as castings are unobtainable on lower priorities.

REGULATING VALVES & STRAINERS: Immediate shipment of a few models of piston and double diaphragm valves and suction line strainers.

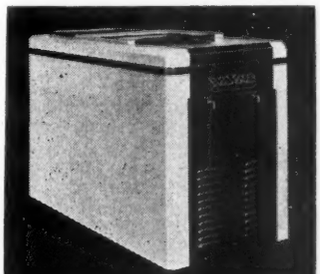
Write for New Catalog D

MONARCH MFG. WORKS, INC.
E. WESTMORELAND & SALMON STS., PHILADELPHIA 34, PA.

WAYNE
HOME EQUIPMENT

DISTRIBUTOR - DEALER
PARTNERSHIP PLAN

- **COMPLETE LINE OF HOME EQUIPMENT.**
- **BROAD ADVERTISING PROGRAM.**
- **SELLING HELPS THAT SELL.**



The Thrifty

NEW WAYNE OIL-FIRED FURNACE UNIT

For new homes and replacements. *COMPLETELY AUTOMATIC.* Priced for the volume market.

YOU MAKE GREATER PROFITS IN THE POPULAR PRICE RANGE

WAYNE OIL BURNER COMPANY, Fort Wayne 4, Indiana

Another New Unit Will Be Featured Next Month — Watch for it.

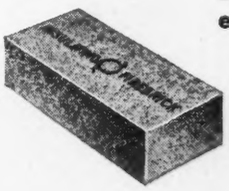
A WARM PRESENT FOR YOUR CUSTOMERS

LIKE AN EXTRA DELIVERY OF OIL *Coupon Free* at a profit to YOU

Every time you get one of your customers to line the combustion chamber of his oil-fired heating plant with B&W Insulating Firebrick, you are actually making him a handsome present . . . in these days of precious fuel coupons . . . a present that costs you nothing—makes him your lasting friend.

The fuel he will save can soon amount to a typical fuel delivery.

B&W Insulating Firebrick saves fuel because it keeps heat IN the firebox, raising it to efficient burning temperature quickly, answering the call of the thermostat with new promptness. In doing so it also reduces soot, odor, burner tip coking—even furnace roar and reverberation.



THE BABCOCK & WILCOX CO.
Refractories Division
85 LIBERTY ST. NEW YORK 6, N. Y.

BABCOCK & WILCOX

BUY WAR BONDS! BUY MORE THAN BEFORE

R207

Equipment Dealers Want

(*Continued from page 47*)

3. Jackets on modern boilers do not please some dealers. They are difficult to install, frequently must be altered on installations (with no improvement in appearance as a result) to fit necessary pipes and oilburner controls, and when in place interfere with servicing the oilburners and controls.

4. Minor complaints about heating specialties of different types are listed by the dealers, with matched suggestions for improvement. "Hot water circulators give too much trouble," confides one dealer, "I wish the starting switches and capacitors of the motors were improved so that I received fewer trouble calls." Another dealer had a long run of trouble with the shaft glands of the circulators he installed, and to top that off, one circulator made the heating system pipes "go bump-bump-bump" every time the circulator stopped. Better vent-valves for radiators of one-pipe steam plants are requested by one dealer who declares he is still strong for steam heat and looks ahead to a good future for it. He has bought vent-valves that don't vent air at all when set for low rates (adjustable vent-valves, of course), and others that would "vent beautifully on Monday, but not on Tuesday until after someone took them out of the radiators and shook the water out of them." The same lover of one-pipe steam heat asks wistfully if some boiler manufacturer will in the future bring out a small steam boiler engineered especially for low-cost homes, and capable of giving low stack temperature when fired at about .6 to 1.0 gph. This should be sized and priced, he cautions, to match its capacity.

As all of the men interviewed were dyed-in-the-wool oil heat enthusiasts, they naturally had much to say about improvements they would like to see to take the remaining flaws out of oilburners themselves. A check-list of the common troubles which they declared should be reduced by improved design appears in an accompanying illustration. The troubles are not listed in order of importance. The plea for a reduction in stack temperatures applies not to the design of oilburners, but to the design and rating of boilers and furnaces built for oilfiring. Mention of the need for ending the trouble of "cold seventy" refers to the general problems of providing smoother automatic heat.

This field survey brought out clearly that the wartime fuel shortages taught typical oilburner dealers dozens of practical, effective ways to reduce oil consumption without lowering house temperatures. Many dealers have learned how to reduce the oil consumption of ordinary installations by 15% to 35%. The application of this knowledge to the oilheating equipment installed in the postwar era will be in itself a serious blow to competitive fuels.

◈

SHBI Changes Name

STEEL BOILER INSTITUTE, Inc., is the new name of the association formerly known as the Steel Heating Boiler Institute, Inc. It is pointed out that the new name better describes the products of the membership, since steel boilers made by the members include power as well as high and low pressure heating boilers.

It is expected that a revision of the Institute's Rating Code shortly will be announced, along with an identifying symbol to be attached to boilers built under the new code.

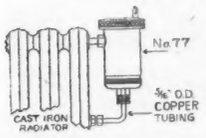
Have you tried IW TRANSITE FLUE PIPE
for venting coal and oil burning equipment?
HERE'S a flue pipe developed specially for venting coal and oil burning domestic heating equipment. An asbestos-cement product, it is completely rust-proof. And, because IW Transite Flue Pipe is integrally waterproofed, it stubbornly resists corrosive fumes and weather.
IW Transite Flue Pipe is easy to install, too—light in weight, needs few supports, and you can cut it to fit right on the job. 2" to 12" diameters; with a complete line of fittings.
For full details, write Johns-Manville, 22 East 40th Street, New York 16, New York.
Approved by the Uniform Building Code
Johns-Manville
JOHNS-MANVILLE JM PRODUCTS
IW TRANSITE FLUE PIPE
FOR VENTING COAL AND OIL BURNING EQUIPMENT

And Keep It Out With

AUTO-VENT AIR ELIMINATORS

CIRCULATION TROUBLES?

Don't fight air pockets or traps in hot or cold circulating lines! "Get that air out of there" *and keep it out* simply by installing the No. 7 Maid-O'-Mist Automatic Air Vent. This reliable air vent has a self-closing float-controlled valve and is designed especially for circulating pipe lines, convector radiators, unit heaters, cooling manifolds, tanks, diesel engines, or any other application where air pockets or traps retard the free circulation of liquids. For pressures up to 75 lbs. Bright brass finish.



Venting Cast Iron Hot Water Radiator

APPROVED FOR NAVY, MARITIME COMMISSION AND ARMY USE

MAID-O'-MIST INC.

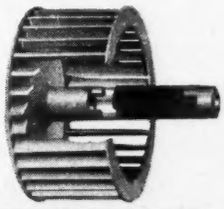
AUTOMATIC HUMIDIFIERS FOR ALL TYPES OF HEATING SYSTEMS

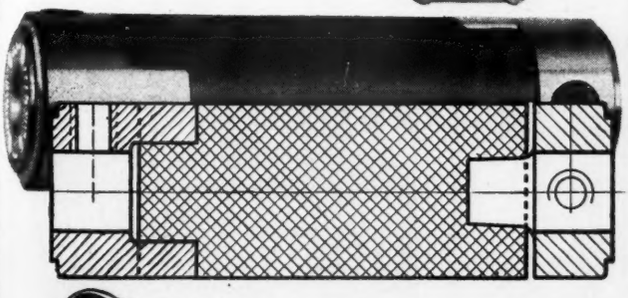
3221 NORTH PULASKI ROAD
CHICAGO 41 ILLINOIS

NOW! *Time for Overhauling— Air Conditioning & Oil Heat!*

L-R *Flexible Couplings,* IMMEDIATE DELIVERIES ANY QUANTITY . . . .

Correct misalignment. Take up vibration. Eliminate noise. 2 & 3-piece. All sizes. (Fan mfrs. supply fans with L-R jaws on hub. Write us for information)—





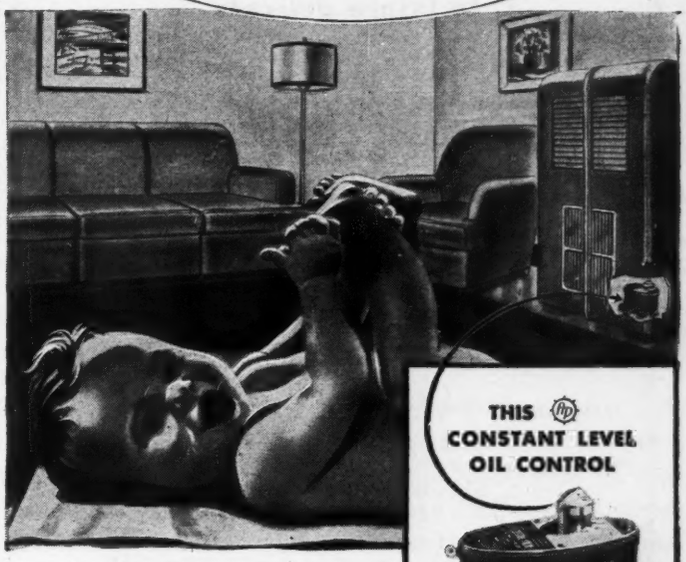
Type UX Double-flex. Pat. & Pats. Pend. A-050 body with UX molded center. No spiders. DOUBLE FLEXIBILITY.

Write or wire for details and prices.

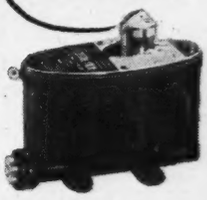
LOVEJOY FLEXIBLE COUPLING CO.

5012 W. LAKE ST. CHICAGO 44, ILL.

Safely Uniform Warmth and Comfort



THIS CONSTANT LEVEL OIL CONTROL



is standard equipment on most good oil-burning heaters now . . .

Just add the A-P ELECTRIC AUTO HEAT CONVERSION TOP to the A-P Control now on your heater.

Then install this A-P Thermostat on the wall, and you will have COMPLETLY AUTOMATIC HEAT CONTROL—always uniform and dependable.

● For Homes where the Space Heater is Equipped with AP Thermostatic Temperature Control . . .

WIN the gratitude of your oil-burning Space Heater customers by helping them to stretch their fuel allotment—prevent fuel waste—and still enjoy uniformly warm homes in early spring. The A-P Thermostatic Temperature Control for Oil-Burning Space Heaters using A-P Model 240 DR or UR Manual Controls is the equipment that will insure this comfort and fuel-saving economy.

TEMPERATURE CONTROL like this soon returns much more than its original cost—in fuel savings and uniform heating comfort. Feature it NOW for sales and profit!

AUTOMATIC PRODUCTS COMPANY

2458 North 32nd Street Milwaukee 10, Wisconsin

AP DEPENDABLE *Oil Controls*

Order For Fall Needs

— NOW —

to insure delivery.

NEWARK CONTROLS

BLOOMFIELD N. J.

Prompt Delivery

FUEL OIL HOSE

Oil Handling Equipment

Send for our catalog of

Truck Pumps • Spicer Universal Joints
Hose Couplings & Clamps • Smith Meters
Fill Boxes, Vent Caps • Tanks (275 to 2,000)

THE GASOLINE & OIL EQUIPMENT CO.

224 Bassett St. Tel. 7-5767 New Haven 11, Conn.

Postwar Housing Calculated At 1,260,000 Units A Year

CONSUMER CREDIT, MONTHLY publication of the Consumer Banking Institute, devoted the March issue to an appraisal of postwar housing. Basic figures were taken from the National Housing Agency's "Housing Needs; a Preliminary Estimate," published in November, 1944, showing a need for 12,600,000 non-farm dwelling units in the first ten years after the war. The Institute feels that the figures are conservative, particularly those showing the need for replacement of substandard dwellings.

"The normal increase in families and continued migration from farms will produce 4,100,000 additional non-farm families," Consumer Credit reports. "The establishment or reestablishment of households by married servicemen will account for an additional 1,400,000 families. The undoubling of households will require another 700,000 units, and an additional 100,000 will be needed to bring vacancies up to 5 per cent of the total housing supply in 1955.

"If replacement of all units that were substandard in 1940 or that will become substandard by 1955, were undertaken in the next twenty years, 6,100,000 units would need to be replaced by 1955, leaving 3,500,000 substandard units unreplaced (not counting those becoming substandard after 1955). In addition, 200,000 units would be destroyed in ten years by fire, storm and flood.

"The total average new dwelling construction need, beginning in 1946, would therefore be 1,260,000 units per year for ten years."

The discussion, it should be noted, is of housing need, and does not pretend to be a forecast of actual building which may take place. We have had a need for additional housing in this country for more than twelve years, but economic forces kept people from building or buying homes, regardless of the demonstrated need. Actual building, buying and renting takes place only when people feel secure and can see into their economic future sufficiently far to justify a change in their housing.

New Cheap Process Makes Gasoline From Gas

OF INTEREST TO OILHEATING dealers principally because it utilizes natural gas that otherwise would compete for home heating, Paul Ryan, vice-president of the M. W. Kellog Co., has announced a new cheap process for making gasoline and diesel fuel from natural gas at the wells.

The process makes possible commercial production of motor gasoline 75 "clear" octane for approximately 5 cents per gallon, including 10% depreciation, from natural gas valued at 5 cents per thousand cubic feet, its current cost at the wells.

In addition to gasoline, the process produces other liquid hydrocarbons such as diesel oil (90-100 diesel index) and butane. It will also yield various chemical products as oxygenated compounds.

◈

BURNHAM BOILER Corp., Irvington, N.Y., announces that consumer advertising on its Base-Ray Heat Panels will break in *House & Garden* and in *House Beautiful* in June.

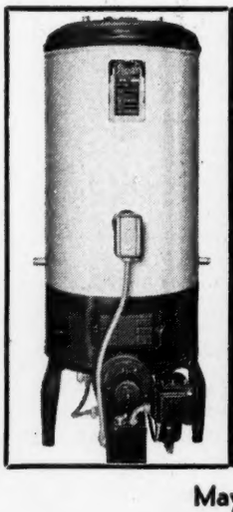
Manufacturers of Rexoil Conversion Burners, Boiler Units, Furnace Units and Direct-Fired Conditioners

DISTRIBUTORS!

Over 60,000 Rexoil Burners in service have built an invaluable reputation on which you can profit. Be sure to get our proposition. You're RIGHT with REX-OIL!

REXOIL

REIF-REXOIL, Inc.
35 Carroll St. Buffalo, N. Y.



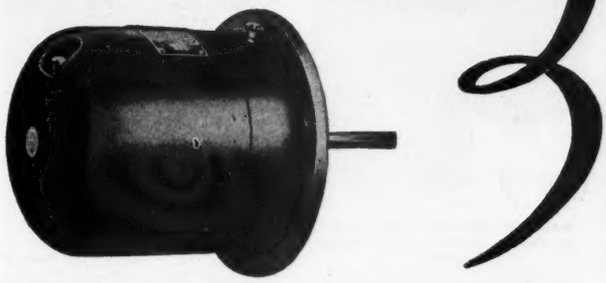
Bock OIL BURNING WATER HEATERS

INTERMITTENT OPERATION
ELECTRIC IGNITION
WITH BOTH VAPORIZING AND PRESSURE TYPE BURNERS
Available in Six Sizes

WRITE OR WIRE TODAY FOR COMPLETE INFORMATION

BOCK CORPORATION
MADISON WISCONSIN

OHIO MOTORS



Blend Perfectly with Modern Appliances

Types—Split Phase and Capacitor
Speeds—1140, 1725, 3500 RPM
Power—1/20 to ½ HP, depending on speed
Voltages—Up to 220 A. C.
Frequencies—60, 50 and 25 cycles
Bases—Solid, Resilient or Flange
Mountings — Horizontal, Sidewall, Ceiling or Vertical, with shaft up or down

What is your problem?

THE OHIO ELECTRIC MFG. CO.
5913 MAURICE AVE., CLEVELAND 4, OHIO

PETRO
REG. U. S. PAT. OFF.

DOMESTIC AND INDUSTRIAL OIL BURNING EQUIPMENT

DOMESTIC—Pressure Atomizing-Models:

Residential "Conversion"—4 models, 1 to 6 g.p.h.
Commercial "Conversion"—3 models, 6 to 18 g.p.h.
Flange Mounting Special Models for popular boilers and furnaces.
Complete boiler—or furnace burner units.
Direct fired water heaters.

INDUSTRIAL—Rotary Cup Type-Burners:

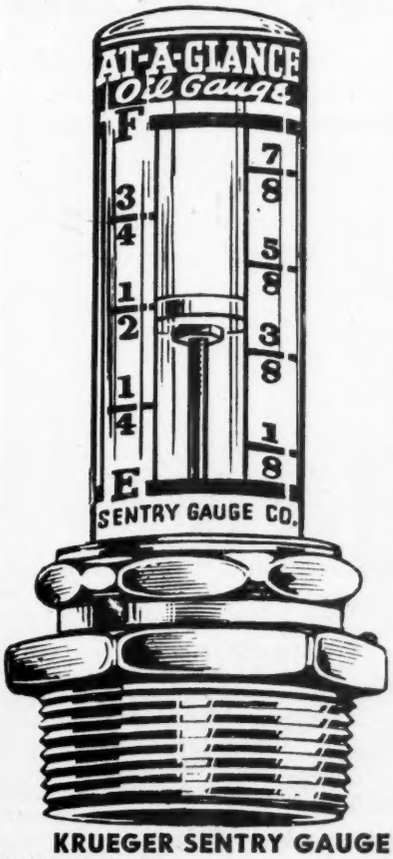
8 sizes for #5 oil, 7 for preheated #6 oil with Petro "Thermal Viscosity" system, for manual, semi-, or full automatic operation to 145 g.p.h.

PETROLEUM HEAT & POWER COMPANY

Makers of good oil burners since 1903

STAMFORD CONNECTICUT

YOU CAN'T GO WRONG



with an

AT-A-GLANCE OIL GAUGE

Because:

1.—It has a simple sturdy construction—no gears or intricate mechanism to go wrong or wear out.

2.—It is approved and listed as standard by the UNDERWRITERS LABORATORIES, INC.

3.—It is guaranteed leak-proof, built to withstand a high pressure.

4.—It is attractive in appearance, and is the only gauge on the market that can be read "AT-A-GLANCE" from any direction.

5.—It is easily installed and is made in sizes to fit any standard horizontal, round or vertical tank.

"AT-A-GLANCE" Gauges can be purchased from jobbers throughout the United States on an AA-3 Priority.

Write for complete details today.

KRUEGER SENTRY GAUGE COMPANY
109 NO. PEARL ST. GREEN BAY, WISCONSIN

TEESDALE

THE PUMP WITH EVERY ENGINEERING AND PRODUCTION QUALITY

T. U. X.
Fully-Automatic
OIL PUMP

Self-Priming Vapor and Oil Tight
Capacity: 30 Gallons per Hour Silent Leak-proof

The Heart-Beat of the BURNER'S OIL FLOW

• IT'S A DEPENDABLE "TEESDALE" •

DEALER INQUIRIES INVITED

TEESDALE MANUFACTURING CO.
427 MARKET AVE., GRAND RAPIDS 3, MICHIGAN

IF BETTER DRAFT CONTROLS ARE EVER MADE THEY WILL STILL BE MADE BY

"SIMPLEX"

"Type H" Fuel Saver

Made in all sizes from 4" to 24" inclusive.
The frames of type "H" controls from 5" to 10" inclusive, are made of a new alloy, cast in our special molds, and the gates are made of galvanneal or black iron, cadmium plated.
All balancing members are cadmium plated, making practically a rust proof control.

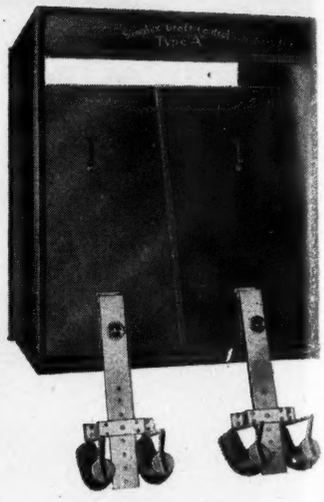
5 in 1 SIM-TROL

with Simplex Adjustable Sleeve

adjustable to breechings from 8" to 12" inclusive, which covers the range of most domestic heating plants.

Type "D"

Made for Oil and Gas Water Heaters, Stoves and Space Heaters.



Type "A" Industrial Control made for any size plant.

Made by SIMPLEX Manufacturing Co.
FOND DU LAC, WIS.

Tomorrow's Fueloil

(*Continued from page 39*)

8). It will be seen that both sets of data fell along the same straight line when plotted against either percent aromatics or diesel index, and the deviations of individual points shown are within the reproducibility of the smoke test.

Although it is realized that these data do not cover a wide enough variety of fuels and test conditions to be considered conclusive, the prospects of being able to predict the performance of a fuel in actual service by means of some such accepted laboratory test, regardless of the origin of the fuel or the process by which it is produced, are quite encouraging. In this connection, the diesel index test has certain practical advantages over a test for aromatics in that it is already well established, is much simpler to determine, and is more reproducible between different laboratories. Incidentally, the diesel index of a fuel is defined as the A.P.I. gravity multiplied by the aniline cloud point divided by 100, and it is used to indicate the suitability of the fuel for use in diesel engines. It is logical to expect the diesel index to correlate with the tendency of a fuel to smoke, since the properties on which it is based are directly related to the hydrocarbon composition of the fuel.

Our work in connection with the evaluation of the performance characteristics of catalytic fuels has not been confined merely to finding out how the fuels behaved in different types of burners. We have gone considerably further and investigated various means by which existing burners, designed primarily for utilization of fuels of prewar quality, as well as burners of the future, can be adapted or designed to handle fuels containing up to as high as 100% cracked distillates. This phase of our study will not be discussed at this time. However, the results of the work in this direction thus far have been very encouraging indeed, and at some later date, it is planned to make this a subject of a separate article.

◈

"E" Award to Moore & Kling

MAJOR WARREN S. SNOW and Lt. Commander S. W. Burton represented the Army and Navy, respectively, in the presentation of an Army-Navy "E" pennant to Moore and Kling, Inc., Boston, on March 28, in recognition of high achievement in producing materials for war. Elmer M. Kling, president, accepted the award for the company and D. J. Sheehan, Jr. for the employees.

OIL SOOT E-Z DESTROYER

WAR ON FUEL OIL WASTE

Simply spray E-Z, and the soot in fire chamber and flues vanishes instantly. Increases efficiency of oil. One trial will convince you. "EASY" TO USE . . . ECONOMICAL TOO!

Makes satisfied customers.

DISTRIBUTORS: *Write for fine proposition.*

HEALY-RUFF COMPANY, 797 Hampden Ave., St. Paul, Minn.
Enclosed find check ( ) money order ( ) Send the following prepaid:

No. 1 pkg.....$1.00
No. 5 pkg..... 4.50

Name .....
Address .....
City..... State.....

Rajah

HAND CRIMPING TOOL

IT CUTS AND STRIPS AND ALSO CRIMPS

Rajah Terminals to ignition cable without the use of solder or any other tools

The RAJAH COMPANY, Bloomfield, N. J.

"EDCO" PRODUCTS ARE WORTH WAITING FOR!

Fig. 246

Right now, "EDCO" production is bigger than it ever was in peacetime. Due to the ever increasing demand for "EDCO" Pumps, Pressure Regulating Valves, Pipe Line Strainers and Spray Nozzles by our Armed Forces, there is nowhere near enough left to meet the civilian demands — but they will be worth waiting for.

"EDCO" products have been good in the past. They will be better in the future—proved on the battle fronts of this war. They'll have still greater dependability assured by the vast experience and unusual exacting manufacturing standards which are adhered to.

With Victory and Peace, "EDCO" production lines will keep right on producing trouble-free accessories to help you build the better world for which we are all fighting.

Have you received our new Spray Nozzle Bulletin #2046?

"Specify EDCO Products on Your Next Order."

EDDINGTON METAL SPECIALTY CO.

P. O. BOX K,

EDDINGTON - PENNA.

HEIL

is the Name to Remember

— for oil burners . . . oil-designed furnaces and boilers *that assure you of:*

- ✓ Satisfied, loyal customers
- ✓ Minimum service trouble
- ✓ Efficient, economical operation
- ✓ Design features that sell
- ✓ Profitable manufacturer-dealer relations

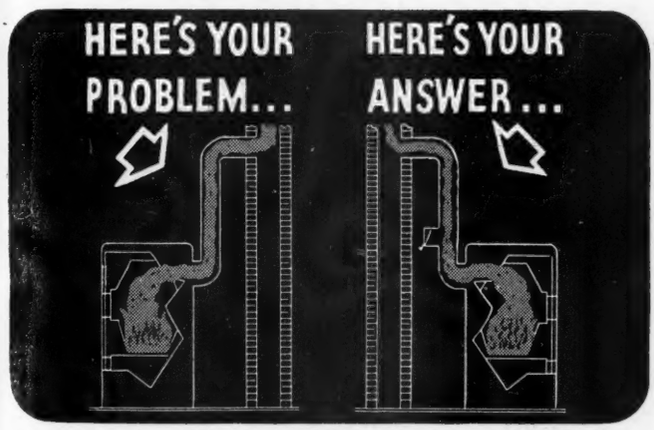
H-1

HEIL ANSWERS UNCLE SAM'S CALL
. . . and helps the Arsenal of Democracy supply materials for Victory!

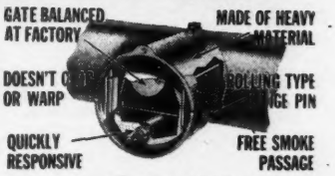
THE HEIL CO.

GENERAL OFFICES: MILWAUKEE, WISCONSIN

Field DRAFT CONTROL



FUEL WASTES up to 25% result from excessive, uncontrolled chimney drafts, in nine heating plants out of ten. A Field Barometric Draft Control ELIMINATES this waste. How logical, then, for the few dollars involved, to make a FIELD CONTROL STANDARD EQUIPMENT on every heating installation. Write for the facts today.



It's the famous FIELD design — the most sensitive, most accurate, most durable draft control manufactured today.

FIELD CONTROL DIVISION

MENDOTA, ILLINOIS

fueloil & oil heat

ARE YOU PUTTING THIS SALESMAN TO WORK FOR YOU?

DEALERS NOW SELL KLEEN-FLO by MAIL

The sensational sales promotion material provided by Kleen-Flo is building extra year-round profitable business by mail. Not only does this help solve a selling problem, but helps you keep in contact with your customers and prospects regularly. They will welcome your suggestion to use KLEEN-FLO because it improves oil burner operation and conserves OIL.

Liquid

KLEEN-FLO

FUEL OIL CONDITIONER

COMBUSTION UTILITIES CORPORATION

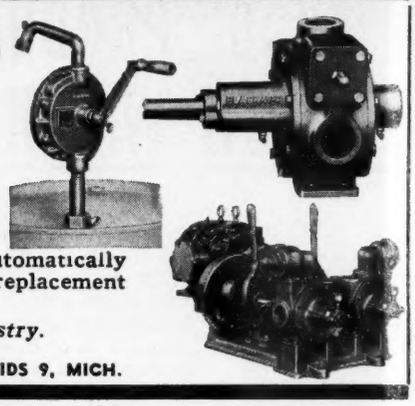
1451 Broadway, New York 18, N. Y.

Montreal Office: 411 Confederation Bldg.

SERVING THE PETROLEUM INDUSTRY FOR 40 YEARS

BLACKMER ROTARY PUMPS

SELF-ADJUSTING FOR WEAR



HAND PUMPS	BULK PUMPS	TRUCK PUMPS
1½ to 25 GPM. For barrel or tank service.	50 to 750 GPM Single or twin.	35 - 50 - 90 GPM Double Bearing.

Due to the "BUCKET DESIGN" (swinging vane principle) these pumps automatically compensate for wear. When the buckets are finally worn out, a 20-minute replacement job restores the pump to normal capacity.

WRITE FOR BULLETIN No. 102: *Pumps for the Petroleum Industry.*

BLACKMER PUMP COMPANY 2170 CENTURY AVENUE GRAND RAPIDS 9, MICH.

Dun Survey Shows Many Plans for Expansion

DUN & BRADSTREET, Inc., New York, has completed a survey of business men that indicates 37% of the nation's manufacturers and 44% of the wholesalers are planning to make or distribute new products or lines after the war.

A simple questionnaire was sent, late in the Fall of 1944, to 170,000 companies, mostly manufacturers and wholesalers. The four principal questions addressed to the companies were: Are you planning to (1) Manufacture or distribute now products or lines? (2) Sell new classes of customers? (3) Expand or contract sales territories? (4) Use new methods or channels of distribution? Of the 28,000 responses, 22,314 from manufacturers and wholesalers are represented in the final tabulations.

Of the 13,666 manufacturers, more than a third plan to manufacture new products, more than a fourth plan to sell new classes of customers, not far from a half plan to expand their sales territories, more than a fifth plan to use new methods or channels of distribution, and more than an eighth contemplate other fundamental changes in operations.

A somewhat larger proportion of the 8,648 wholesalers plan changes. Not far from half plan to wholesale new lines and to expand their sales territories, a third plan to sell new classes of customers, more than a fourth plan to use new methods or channels of distribution, and a sixth contemplate other changes in operations.

Still the choice of leading boiler manufacturers and heating men after 20 years' nationwide service.

For sale by all wholesalers of plumbing and heating supplies. *Ask For Folder "K."*

THE VINCO CO., Inc. 305 E. 45 Street, New York 17, N. Y.

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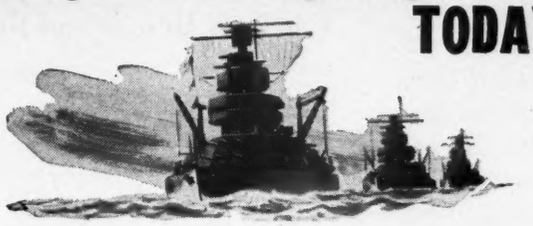

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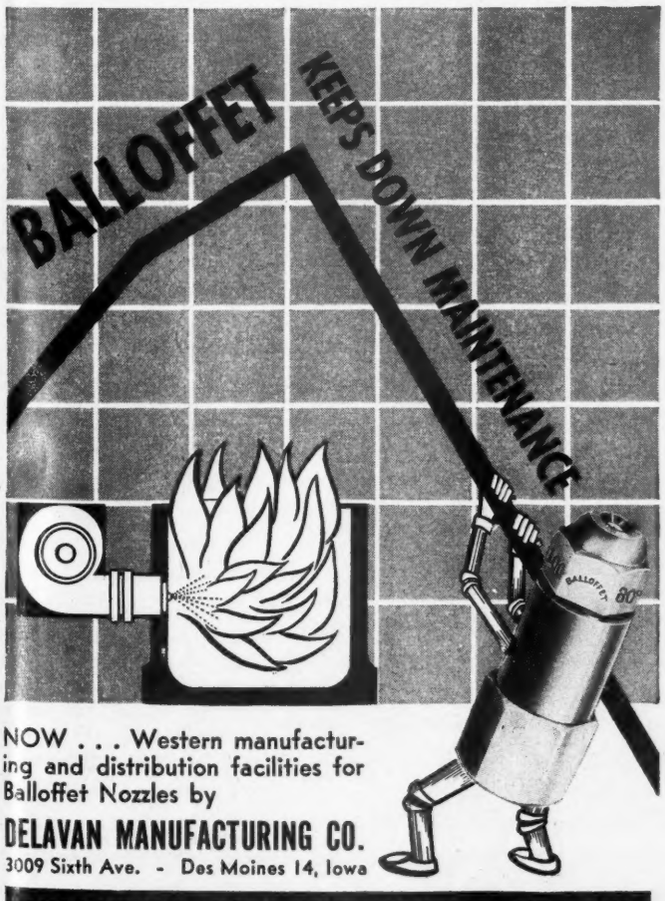

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Step Out OF THE "CHICKEN FEED" CLASS with..

BE THE LEADER IN YOUR LOCALITY

Burner Demand

(*Continued from page 35*)

Such evidence of the mounting inability of the industry to keep abreast of the demand for burners and units for essential civilian replacements seems to indicate inability to get component parts in sufficient volume. Capacity to produce oilburners in the small plants around the country is many times the 10,000-per-month presently allowed, if production were unhampered by material shortages.

It is reliably reported that other essential civilian production programs have been given such priority ratings as are necessary to insure the products reaching the public in minimum essential volume. There seems to be ample proof of need for some uprating in the oilburner program. Dealers are desperately in need of oilburners. Small manufacturers have the capacity to make those burners if they could get the parts. A sufficiently high priority rating to get the parts appears to be all that is standing in the way of production.

Electric motors, long a bottleneck, now are reported to be available in reasonable quantities when orders are well rated. Castings are extremely hard to get, and controls also are reported scarce on present ratings. Other industries with better priority ratings seem to be out-bidding the oilheating industry for materials.

Undoubtedly there are cases of over-ordering, hoarding, and purchase of materials that are not too urgently needed. Not all individual complaints about slow deliveries and inability to get parts are justified. More policing of orders may be necessary, but it is obvious that a sufficient number of manufacturers are not getting enough materials to make more than half the minimum requirements of the oilheating industry. It seems impossible that individual maladjustment of orders could affect the whole program by so great an amount.

◈

Quentin W. Regestein has been named general manager of the New York City division for Socony Vacuum Oil Co., Inc. in N. Y. During the past year, he has been chief of the Gasoline Rationing Branch of OPA in Washington. *Regestein* originally joined Socony Vacuum in 1931.

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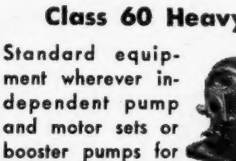
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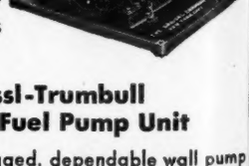
Standard equipment wherever independent pump and motor sets or booster pumps for pump-type burners are required.



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Rugged, dependable wall pump for gravity type oil burners having burning capacity of not more than 3 gals. per hour—Approved by Underwriters' Labs., Inc.

Submit your fuel-line problems to KRAISSL engineers—literature and prices on request.

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DEGREE DAY TABLES

ONE MONTH ONLY — March Normal	March 1944	March 1945	Percent Change*		SEASON TO DATE (Sept. 1 to Mar. 31) Normal	1944	1945	Percent Change*
955	1116	664	—30.5	Albany	5817	6316	6074	+ 4.4
389	372	163	—58.1	Atlanta	2794	2674	2598	— 7.1
650	719	374	—42.3	Baltimore	4063	4059	3945	— 2.9
852	956	585	—31.4	Boston	5067	5257	5002	— 1.3
1010	1084	641	—36.5	Buffalo	5782	6053	5752	— 0.5
871	1014	510	—41.5	Chicago	5410	5655	5395	— 0.3
681	764	347	—48.6	Cincinnati	4487	4522	4462	— 0.6
892	959	519	—41.8	Cleveland	5281	5428	5297	+ 0.3
284	319	132	—53.7	Dallas	2269	2333	2093	— 7.8
792	941	676	—14.7	Denver	4990	4938	4636	— 7.1
849	1034	581	—31.6	Des Moines	5742	5699	5424	— 5.5
943	1050	534	—43.4	Detroit	5681	5752	5450	— 4.1
962	1057	594	—38.3	Grand Rapids	5817	5854	5559	— 4.4
871	962	589	—33.5	Hartford	5296	5600	5465	+ 3.2
982	1184	978	— 0.4	Helena	6548	6720	6572	— 0.4
154	133	28	—81.8	Houston	1283	1278	1116	—13.0
751	830	433	—42.3	Indianapolis	4890	4878	4744	— 3.0
657	801	423	—35.7	Kansas City	4538	4656	5190	+14.4
209	179	336	+60.8	Los Angeles	1100	1126	1224	+11.3
595	682	291	—51.0	Louisville	4027	3973	3941	— 2.1
969	1100	643	—33.7	Milwaukee	5994	6087	6003	+ 0.1
1082	1243	784	—27.6	Minneapolis	7063	6796	6536	— 7.5
130	100	20	—85.0	New Orleans	1175	1192	1043	—11.2
785	872	453	—42.4	New York	4627	4762	4447	— 3.9
813	1051	588	—27.7	Omaha	5508	5668	5194	— 5.7
697	778	439	—36.9	Philadelphia	4236	4361	4488	+ 6.0
767	833	447	—41.7	Pittsburgh	4809	4891	5014	+ 4.3
1003	1113	819	—18.4	Portland, Me.	6085	6635	6453	+ 6.1
530	551	613	+15.7	Portland, Ore.	3603	3378	3407	— 5.4
866	911	619	—28.6	Providence	5158	5124	4901	— 5.0
616	735	379	—38.3	St. Louis	4209	4280	4278	+ 1.6
709	856	807	+13.8	Salt Lake City	4885	5372	4763	— 2.5
314	286	457	+45.6	San Francisco	2048	1845	2412	+17.8
1303	1394	957	—26.5	Sault Ste. Marie	7587	7515	7373	— 2.8
595	589	619	+ 4.3	Seattle	3816	3441	3452	— 9.5
889	1034	540	—39.3	Toledo	5442	5826	5644	+ 3.7
637	688	329	—48.4	Washingon	4133	4129	3911	— 5.4

*Compared with normal.

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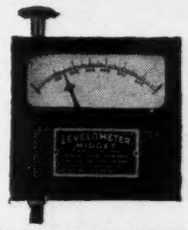

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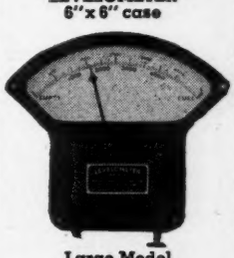

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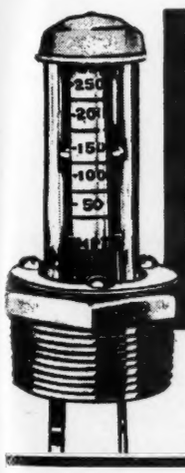

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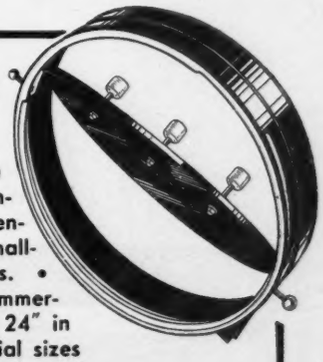

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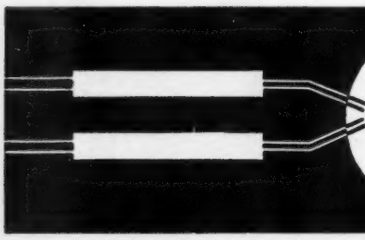

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